

Provisional Patent Application

Assessments, Methods, and Systems of Learned Career Guidance

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Prior Art.

US Patent Documents

US Pat. US6070143 A	Dec., 1997	Matthew Barney et al. 705/7.42
US Pat. US20030220811 A1	Mar., 2000	David Fan et al. 705/328
US Pat. US20020055867 A1	Jun., 2000	Laura Putnam et al. 705/7.14
US Pat. US20040219493 A1	Apr., 2001	Nigel Phillips 434/118 et al.
US Pat. US20030187842 A1	Mar., 2002	Carole Hyatt 1/1 et al.
US Pat. US20070203710 A1	Mar., 2002	Juergen Habichler et al. 705/320
US Pat. US20050096973 A1	Nov., 2003	Neil Heyse et al. 705/7.39 et al.
US Pat. US20050114203 A1	Nov., 2003	Terrance Savitsky et al. 705/320
US Pat. US20050170321 A1	Jan., 2004	Helen Scully 434/219 et al.
US Pat. US20060265270 A1	May, 2005	Adam Hyder et al. 705/321
US Pat. US20070190504 A1	Feb., 2006	Brian Schwartz et al. 434/219
US Pat. US20080082384 A1	Oct., 2006	Debra Bekerian et al. 705/321
US Pat. US7917449 B2	Oct., 2006	Debra Bekerian et al. 705/321 et al.
US Pat. US8429092 B2	Oct., 2006	Debra Bekerian et al. 705/321 et al.
US Pat. US20080227063 A1	Mar., 2007	Andrew Kenedy et al. 434/219
US Pat. US8311866 B1	Sep., 2007	Cathleen Benko et al. 705/7.12
US Pat. US8244551 B1	Apr., 2008	Matthew Mund 705/1.1 et al.
US Pat. US20090276231 A1	Apr., 2008	Michael Bazigos et al. 705/320
US Pat. US20100057659 A1	Aug., 2008	Promise Phelon et al. 706/46
US Pat. US20100082356 A1	Sep., 2008	Himanshu Verma et al. 705/1.1 et al.
US Pat. US20110258132 A1	Feb., 2009	Mark Andrekovich et al. 705/321
US Pat. US20100324970 A1	Jun., 2009	Promise Phelon et al. 705/321 et al.
US Pat. US20120226623 A1	Oct., 2010	Russell Journey et al. 705/321
US Pat. US 8751408 B2	Dec., 2011	Cory Linton et al. 705/328
US Pat. US20130164720 A1	Dec., 2011	Allison Siimes et al. 434/219

US Pat. US20130166466 A1	Dec., 2011	Joan Sanger 705/319
US Pat. US20140089219 A1	Sep., 2012	Michael Mathews 705/327
US Pat. US20150347606 A1	May, 2014	Vaibhav Goel et al. G06F17/30

Advantages.

Various aspects of the assessments, methods, and systems of learned career guidance may have one or more of the following advantages:

- Provide a more universal career mapping within and across organizations, industries, & careers
- Provide a more targeted mapping from users' prior experience to possible future paths based on previous education and/or job experience and future career, industry, and/or company interests
- Provide a more complete, end-to-end career development experience from career assessment to job search, to name a few
- Provide a more integrated approach for accessing jobs, courses, etc. from multiple sources
- Provide a more active recruitment environment for identifying users who have specified interests and career paths that align with recruiters' current opportunities
- Provide a more dynamic system that learns & adapts to users' experience and workforce needs

Drawings.

FIG. 1 illustrates an exemplary digital career network environment using career path mapping features;

FIG. 2 is a block diagram of an exemplary assessment, method, and system for career path mapping;

FIG. 3 is a block diagram of exemplary system components to view careers, take a career assessment, and access member resources, to name a few;

FIG. 3A is an exemplary screen shot of an about page with links to view careers and access member resources, to name a few;

FIG. 4 is an exemplary screen shot to view a career path mapping component and information for selected careers;

FIG. 4A is an exemplary screen shot of a collapsible indented tree to expand, collapse, access, and/or find industries, companies, jobs, education, degrees, colleges & universities, online courses, specializations, conferences, groups, and meetups;

FIG. 4B is an exemplary screen shot of a career path mapping vertical tree component displaying multiple paths given a sample of users' education and job experiences with clickable nodes that toggle modals of circle packed information;

FIG. 4C is an exemplary screen shot of a career path table component displaying multiple activities given a sample of contributed users' education and job experience every 4 years up to 20 years;

FIG. 4D is an exemplary screen shot of circle packed full-time job information given a sample of users;

FIG. 4E is an exemplary screen shot of circle packed undergraduate data given a sample of users;

FIG. 5 is a block diagram of an exemplary system component enabling a user to access member resources such as adding more nodes to their career path or viewing others' career paths similar to theirs;

FIG. **5A** is an exemplary screen shot of a registration and login page for users;

FIG. **5B** is an exemplary screen shot of a user's own specific career path;

FIG. **5C** is an exemplary screen shot of a user adding education to his or her career path;

FIG. **5D** is an exemplary screen shot of a user adding job experience to his or her career path;

FIG. **6** is an exemplary screen shot of sortable, filterable, and/or searchable blog posts;

FIG. **6A** is an exemplary screen shot of a blog post where users have accessed a specific article allowing them to view statistics, hyperlink to the blog post, and/or comment;

FIG. **7** is a block diagram describing the steps to complete the career assessment;

FIG. **7A** is an exemplary screen shot of an entry page to start the career assessment;

FIG. **7B** is an exemplary screen shot of a set of career assessment questions such as but not limited to strongly agree, agree, disagree, or strongly disagree, ranking 1 (least pleased) to 10 (most pleased), and/or opposites of which better describes the user;

FIG **8** is an exemplary screen shot of results displayed automatically and immediately after the career assessment is completed with the first table at the top displaying top three industries and industry category scores;

FIG **8A** is an exemplary screen shot of the second table of career assessment results displaying career category scores which are used to suggest careers by calculating minimum differences between the survey and each career;

FIG **8B** is an exemplary screen shot of the third table of career assessment results displaying the top thirty careers based on the minimum differences between survey category scores and each career's signature of category scores;

FIG **8C** is an exemplary screen shot of the career assessment answers grouped by career category;

FIG **8D** is an exemplary screen shot of the career assessment answers grouped by career specific question to sort suggested top careers based on these user preferences; and

FIG **9** is an exemplary screen shot of the career category signature of scores (e.g. General Surgeon) and industry category signature of scores (e.g. Health).

Detailed Description.

The inventors listed invented assessments, methods, and systems of learned career guidance using data visualization techniques and algorithms such as clustering, recommender systems, and machine learning, to name a few. Career path mapping can be defined as, but not limited to, suggesting future paths of industries, companies, jobs, education, majors, courses, conferences, groups, etc. based on a user's future interests as well as previous education, job experiences, and other relevant activities. Relevant prior art includes assessments that suggest careers based on answers to specific survey questions and career guidance based on an individual's past work history. Primary differentiators of this invention is that it allows the user to experiment with future paths based on what they would like to achieve, not just what they have achieved already, as well as factoring in more information beyond work history such as online courses completed, aspiring interests, and future career path selections. As a result, the assessments, methods, and systems of learned career guidance **130** provides a more complete mapping using crowd-source and mined data from a number of users in the careers. This invention also offers a more end-to-end career development experience from career assessment **550** to

job search **425**, to name a few, enabling users **101** to view careers **206**, mentee **101A** and mentor **101B** members to access member resources **208**, and sponsors **101C** to advertise sponsored career path **430** items. The more information provided about the mentee's **101A** current career path **507** of education and experience, more similar mentor **101B** career paths can be suggested. Taking the career assessment **370** is another way to provide more information to improve career path suggestions. Career assessment results **580** display top recommended industries **582** and top recommended careers **600** based on an individual's answers to mixed question sets **572** of career category **610** and career specific questions **620**. Suggested career paths **430** and collapsible indented trees **410** enable users **101** to expand, collapse, access, and/or find industries **413**, companies **414**, jobs **415**, education **416**, degrees **417**, colleges & universities **418**, online courses **421** and specializations **420**, conferences, groups, and meetups **422**. Information displayed can be filtered by selecting a path **434** of the career path **430** and/or selecting from a plethora of filter/tree pruner **408** options. Career paths **430** have clickable nodes for occupations **432** and education **436** to view the specifics behind a possible path. When clicked, circle packs for occupations **450** and education **460** are displayed respectively. The collapsible indented tree **410** can be expanded, collapsed, and hyperlinked to launch company **415**, college/university **418**, online courses **421**, and/or conferences, groups, and meetups **422**. Click on find jobs **425** when viewing a career **400** and currently available opportunities **415** display. Comments **409** can be added by users **101** for additional career specific information and advice.

The assessments, methods, and systems **130** may host a website that allows one or more users **101**, e.g., the sponsor user **101C** to advertise or mentor users **101B** to advise to mentees **101A** for career path mapping **130**, at one or more user devices **110** via a communications network **120** to the website. User devices **110** include a computer terminal, a laptop, a personal digital assistant (PDA), a wireless telephone, a smart phone, a smart phone application, and/or the like. Communications network **120** includes a local area network (LAN), a wide area network (WAN), a wireless network, a cellular network, an intranet, an internet, and/or the like.

Terms of use **202** are accessible via a terms of use link **306**. The terms of use **202** apply to all visitors, users, and others who access the service. Non-registered visitors **102** may view careers **206** as well as apply and register **204** by accessing an online application via registration section **502** on the web page to access member resources **208** or advertise career resources **210**. If deemed appropriate for membership, non-registered visitors **102** will receive a confirmation code to use during login **504**. Otherwise, they are given read-only access to view careers **206**, access social media pages **360**, join the mailing list **350**, share pages via LinkedIn **355**, and/or view blog posts **345** until they login **502**. Users **101** unable to login may use forgot password functionality **506**. Users **101** may login by entering required login information **504**, such as registered email address and password. Confirmation code is also required when logging in from a communication network **120** for the first time. Once logged in, users **101** can access their member resources **208** such as their own career path **507** where they can add additional experience **505** or view similar career paths **503** based on other users. Alternative was to add additional experience **505** may be integration with Facebook, LinkedIn, and/or other company APIs. System activity is stored in a number of databases, schemas, and tables referred to as a resource database **212**.

The web page to view careers **400** consists of a number of sections. Along the top, a navigation bar **310** is available to navigate between internal pages. External links to social media **302** are available

below the navigation bar. Also along the top right, non-registered visitors **102** can enter their email address to join the mailing list. Near the top center of the career page, mentor users **101B** may be displayed with a digital business card **406** containing thumbnail images and hyperlinks to their LinkedIn public profiles. Along the left side, career specific blog posts **404** (if any for the selected career) and general blog posts **304** are displayed via hyperlinked thumbnail images. Above terms of use **306** information at the bottom of the page, there is a comments box **409** specific to the career selected **402**. Along the right side, filter/tree pruners options **408** are available to filter information displayed in the collapsible indented tree **410**, career path **430**, and any other filterable information relevant to the selected career. Each career selected **402** displays the career median pay, total jobs, and 10 year growth rate **407** based on data from the Bureau of Labor Statistics. A collapsible indented tree **410** is available to expand, collapse, access, and/or find industries **413**, companies **414**, jobs **415**, education **416**, degrees **417**, colleges & universities **418**, online courses **421** and specializations **420**, conferences, groups, and meetups **422**. Click on the find jobs link **425** to search for currently available jobs from external job search sites such as Indeed, The Muse, etc. in the industries **413** and companies **414** listed. In this exemplary screen shot, orange indented tree branches indicate currently available jobs found from the external job search sites (i.e. posted within past few weeks). Jobs are considered relevant for the selected career **402** if the job name is similar to the career name or a list of job positions linked to the career in resource database **212**. Table 1 below shows example job positions linked to a career such that jobs found **425** returned and similar in name will be displayed for selected career. Note that a job title may be linked to multiple careers and that career name is not listed as a job title record because that would already be used.

Career	Job Title
IT Data Scientist	Computer Vision Engineer
IT Data Scientist	Data Engineer
IT Data Scientist	Deep Learning Specialist
IT Data Scientist	Machine Learning Engineer
UI Engineer	Interaction Designer
UI Engineer	User Experience Designer

Table 1: example of job positions linked to careers to find jobs similar to career

A career path **430** is also available for the career selected **402** showing mapping of paths progressing in education (e.g. undergraduate) **436** and job experiences (e.g. full-time) **432**. All nodes are clickable and result in a colored path **434** being selected (e.g. green in this exemplary screen shot). In addition to the colored selected path **434**, clicking on blue colored nodes on the career path **430** open up additional circle packed information for the specific node. For example, clicking on the undergraduate career node **436** opens up circle packed undergraduate clusters **460** of information for career selected **402**. Likewise, clicking on the full-time career node **432** opens up circle packed full-time clusters **450** of information. Finally, the last table on the page of career node activities every four years **440** illustrates likely activities at different points in time based on a sample of user verified information provided to date.

To see which colleges, universities, and majors are popular for a career, view the collapsible indented tree education **416** rows and/or click on an education node **436** in the career path **430**. The former drills down to the college/university **418** and the latter drills down all the way to the major **464** and user's school **468**. Similarly, to see which industries, companies, and jobs are popular for a career, you can view the collapsible indented tree companies and jobs **412** rows and/or click on an occupation node **432** in the career path **430**. The former drills down to company **414** and job **415** if the find jobs link **425** is clicked. The latter drills down to user's company **458**. As an added feature, users **101** may be able to see user **458** name and contact information depending upon the mentee user's **101A** access. Like information is clustered into circles and lighter shades of colors represent higher levels of the hierarchy; for example, **Figure 4D**.

By default, all blog posts are sorted by publish date ascending and limited to 10 articles to display. Articles may be filtered via the filtering drop-down, sorted via the sorting drop-down, and limited via the results per page drop-down in section **532**. Search for an article using the search functionality **538** by selecting the search criteria and typing the keyword to search. Each article has its own section of information and statistics **540** displaying article name, image, author, publish date, and description in section **544**. Users **101**, mentee **101A**, mentors **101B**, and sponsors **101C** may publish articles as well as comment on articles **409**. To read an article, click on the hyperlinked article name **539**. To comment on an article, click on the article thumbnail **536** and access the specific page for selected article **540**. On this page, notice that the filtering drop-down in section **532** displays "selected" to notify that a specific post has been selected. As a result, you can then find statistics, information, and comments **409** specific to the blog post selected. Users **101** can view and publish blog posts, where sponsor user **101C** blog posts will be flagged as posted by a sponsor. To submit a blog post, users **101** must have successfully logged in **594** and have confirmed **476** their email address.

To access member resources **340** of the system, users **101** must have successfully logged in **480** and have confirmed **476** their email address. To confirm, users **101** obtain a confirmation code from the email that they used to register **502** and enter the code along with email address and password during login **504**. If a user **101** has access to the email address, then he or she will be able to retrieve the confirmation code and enter it into the appropriate account confirmation field. If the confirmation code entered by the user **101** matches what is stored in the resource database **212**, then the account has been confirmed and will successfully login as long as the email and password are also correct. If the confirmation code entered is incorrect, an error message will display and the user **101** may try again **480**.

After successfully logging in **594**, the user **101** is directed to his or her specific career path **507**. Non-users **102** have read-only access to general career paths **430** based on a sample of verified user information and not their own. Mentee **101A** and mentor **101B** users can add nodes **505** and sponsor **101C** users can advertise on other user career paths **507** by adding sponsored nodes **505**. Sponsor users **101C** can view user career paths where they are advertising. Nodes can be entered at any time and in any order. Nodes do not have to be entered in the sequence that they occurred because the user specific career path **507** automatically arrange in the appropriate chronological order for the user specific career path **507** based on the start and end dates of each node, not the order that the nodes are entered. Similar to the general career paths **430**, all nodes are clickable and result in a colored path **434** being selected. If the user **101** has contributed his or her own specific career path **507**, they will also see

a colored path of their own specific career path **507** overlaid on the general career path **430** being viewed to see how close they are to achieving the selected career with filters **408** and other options or information provided. In addition to the colored selected path **434**, clicking on blue colored nodes on the career path **430** open up additional circle packed information for the specific node.

To add an education node **510** to a user's **101** career path, mentee user **101A** or sponsor user **101C** can click on the add node to career path button **505**. Each education node of a user specific career path **507** is an education node tied to a career **511**. Users nodes used in the general career paths **430** only include those nodes leading up to the given career. If a user switches careers, then nodes after the change from the selected career are excluded from earlier career path **430** and only nodes leading up to the last node of the selected career are included; for example, Table 2 below.

User	Career	Career Node	Comments
Justin Wilson	Electrical Engineering	Undergraduate	This career node and any that come before it are included in Electrical Engineering career path
Justin Wilson	Operations Research Analyst	Full-Time	This career node would not be included in the Electrical Engineering career path because it is no longer contributing to that career but instead Operations Research Analyst

Table 2: example of nodes included in career path when users change careers

An education node **510** is added when the type radio button education **512** is chosen. Drop-down education node **513** is pre-populated based on the type selection, in this case education career nodes. Enter school/university into the inst. text field **514** (short for institution) which auto-completes based on schools and universities currently in the resource database **212**. If the text field does not auto-complete because it is a new entry, it is ok to enter free text and the entry will be validated and verified after submission. Next enter major into the pos. text field **515** (short for position) which also auto-completes based on majors current in the resource database **212**. Similarly, if it is a new entry, enter as free text and it will be validated and verified after submission. Finally, enter start date and end date **516**. If education node **510** being entered is still in progress, enter projected end date as the end date.

Adding an occupation node **520** to users **101** career path is very similar to adding education node **510**. Click on the add node to career path button **514**. Each occupation node of a user specific career path **507** is an occupation node tied to a career **511**. In this case, an occupation node **520** is being added so type radio button job experience **512** is chosen. Drop-down occupation node **523** is pre-populated based on the type selection, in this case job experience career nodes. Enter company into the inst. text field **524** (short for institution) which auto-completes based on companies currently in the resource database **212**. If the text field does not auto-complete because it is a new entry, it is ok to enter free text and the entry will be validated and verified after submission. Next enter job title into the pos. text field **525** (short for position) which also auto-completes based on job titles current in the resource database **212**. Similarly, if new entry, enter as free text and it will be validated and verified after submission. Finally, enter start date and end date **516**. If the occupation node **520** being entered is the users **101** current

position, they check current checkbox **529** and either enter a projected end date as the end date or leave it blank.

Users **101** can access the career assessment **370** by entering same confirmation code used during login **504**. Invention could be setup such that the career assessment can be completed without a confirmation code **558** in the future. However, there also may be benefits of using a confirmation code; for example, to receive results or to store for later use along with other member resources. Therefore, access to career assessment **370** may have multiple states so accessible by users **101** and/or non-registered visitors **102**. If a correct confirmation code is entered **558**, then the user **101** is directed to the first page of mixed question sets for career assessment **570**. There are currently three types of questions **572** on the career assessment survey page **570**; 1) strongly agree, agree, disagree, strongly disagree, 2) ranking from 1 (least pleased) to 10 (most pleased), and 3) opposites (which better describes you?). Users **101** can answer as many questions as they like. All questions are considered optional. However, the more answered, the more likely to get a better result of suggested top industries **582** and suggested top careers **600**. Users **101** can share and comment **409** on career assessment results.

Once the survey is completed, results are displayed giving a score for each career **590** and industry category **582**; for example, **Figure 9**. Top suggested careers **600** are calculated based on the minimum difference in category scores between a career and results of the most recently completed career assessment **580**.

```

For each career {
  For each career category {
    Difference = (career category score) minus (assessment category score)
  }
  Sort ascending careers based on minimum difference between career and assessment
};

```

Answers grouped by career category **610** and answers grouped by career specific question **620** are also displayed so the user **101** can review his or her answers and/or save the career assessment results by printing and/or saving. Complete end to end experience is enhanced by hyperlinking top suggested careers **602** so can move from career assessment results to career paths **430** and additional information for careers of interest.

There are many alternative ways that the assessments, methods, and systems of learned career guidance can be implemented:

- Additional required and optional fields can be added to apply and/or register
- Non-users can register automatically without having to apply
- Non-users can login using their social media accounts via integrations such as Sign in with LinkedIn, Facebook Connect, and/or the like
- Additional career path information can be displayed and in more places throughout the system
- Career assessment results can be based on alternative calculations using existing and/or additional metrics

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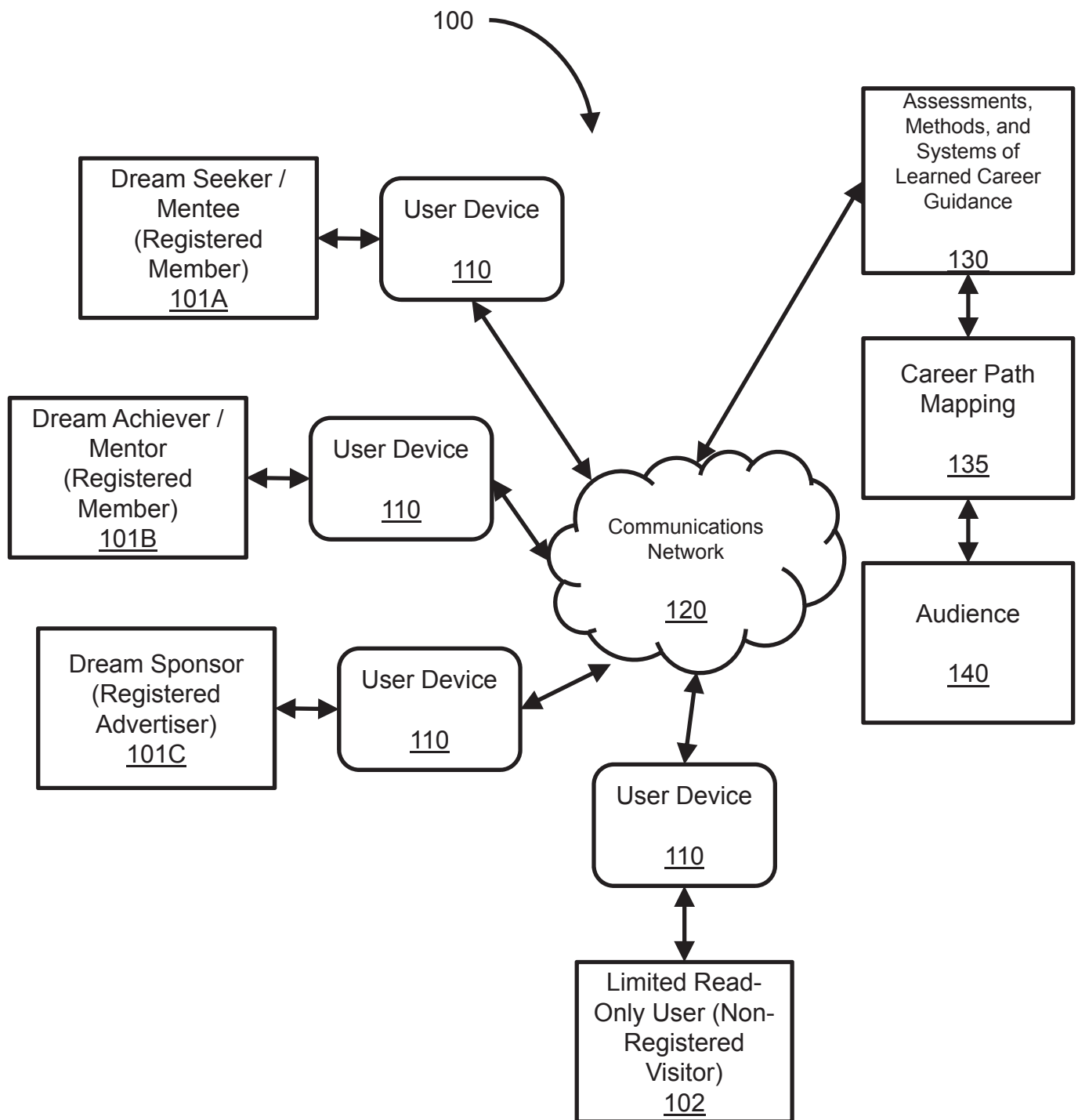
- Suggested career paths, clustering, circle packed information, and collapsible indented trees can be based on additional and/or alternative information
- Filtering and sorting can be based on alternative calculations using existing and/or additional metrics; for example, geographic information such as country, CBSA, city, state, and/or the like
- Additional search criteria can be added to the search functionality
- Additional filtering criteria can be added to the filtering functionality
- Additional social networks can be integrated and connected
- Information can be further customized by soliciting user input and/or retrieving information from one or more other sources containing such information
- Job search results from additional sites can be added
- Courses from additional online and offline educational platforms can be added
- Industries, companies, online courses, conferences, groups, meetups, etc. can be refreshed automatically on a periodic basis and/or initiated by a company, sponsor, and/or user
- Additional industries, companies, online courses, conferences, groups, meetups, etc. can be added on a continuous basis by advertisers, other users, inventors, and/or others associated with this invention
- Users can view percentage likelihood of achieving a selected career path, career to career transition, and/or the like based on previous experience entered and/or obtained from sources containing such information
- Sponsor users can filter and/or sort how the advertising users and their posts are displayed
- Eligibility can be defined based on sponsor needs and/or advertiser user demographics, previous postings, and/or the like to permit and/or prevent eligibility to advertise specific information
- Additional required and optional fields can be added to sponsor information
- Users can be alerted when new information is submitted, advertised, and/or the like
- Digital advertising posts can be limited to sponsor preferred media/audiences or expanded beyond social networking sites to any digital content and/or the like
- Users can connect within and across industries, companies, etc. for career opportunities such as jobs, internships, mentoring, etc.
- Users can submit questions via text message, email, and/or other messaging channel and they will be directed to the appropriate career, industry, company, etc. experts to answer, using same or different messaging channel from how the question was submitted
- Questions and/or communications submitted via Facebook, Twitter, and/or other social media networks can be directed to users and/or the appropriate career, industry, company, etc. experts for comment and follow-up
- Additional criteria can be incorporated for selecting similar users and/or career paths
- Users can find other users that are in their industry, company, geographical area, etc. and on the same career path
- Users can save specific career path or paths locally and/or share on social media
- Users can view their resources, save information, and/or receive information to a profile page specific for each user

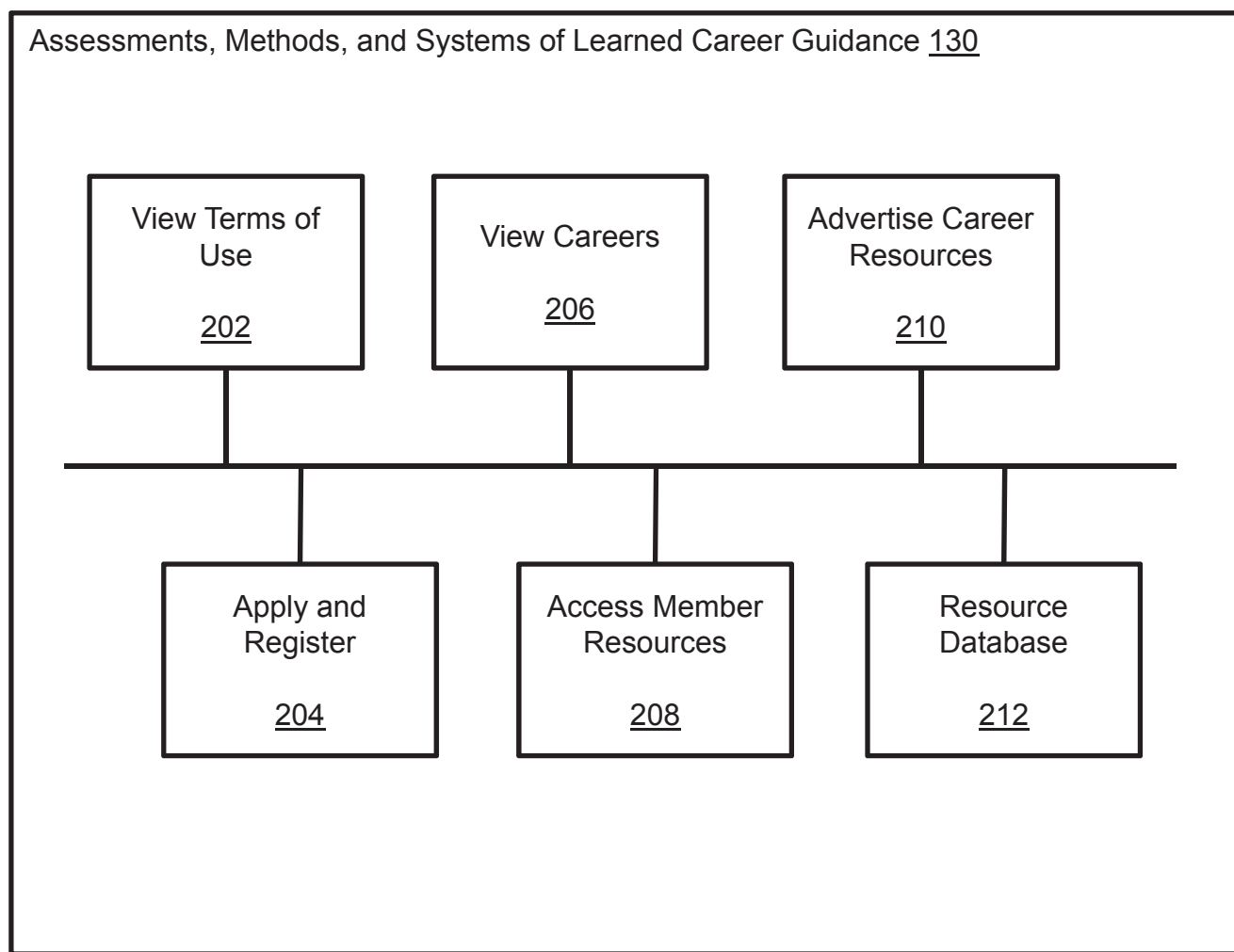
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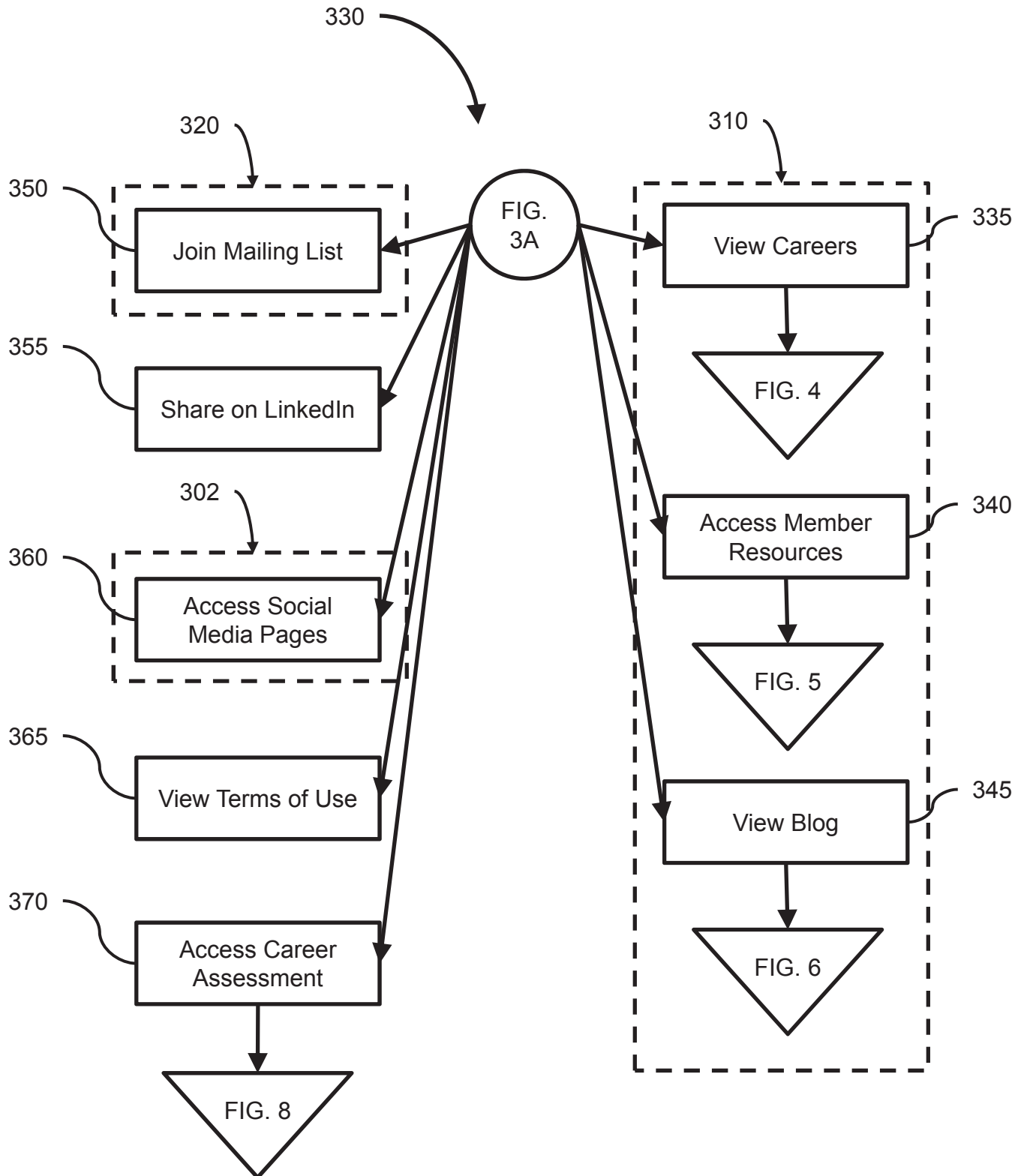
- Freelancing sites such as Guru, UpWork, Real Time Cases, and other job opportunity sites can be integrated to further enhance the end to end experience from job search to job experience
- Workday integration to allow users to connect through Workday, streamline goals and objectives information, and share/receive information
- Ability to virtually shadow users to experience various career, industry, company, etc. in addition to day in the life information from users or from other sources containing such information
- Since the invention spans across industries, companies, etc., it may offer features similar to an umbrella or parent organization; for example, summer weekly internship fellows (SWIFs) that intern at various companies but are members of this invention's community
- Word cloud for selected career based on text and keywords from industries, companies, job positions, career descriptions, colleges, universities, majors, conferences, groups, etc.
- Users of like career paths can receive notifications about each other in the community and are given the opportunity to gift resources such as classes, training, internships, etc. and/or comment/message with other users
- Messaging between users online and offline
- Integration of salary information externally sourced and incorporated into career path mapping
- External articles and resources visualized, grouped together, and filterable for relevant careers
- How to content, video, publications, etc. can be produced and displayed about this invention, inventors, and/or others associated with this invention
- Algorithms, clustering techniques, machine learning, etc. may be modified and enhanced
- Blog posts, articles, publications, and/or the like added generally or specifically to a career, company, industry, etc. and accessible in alternative ways using alternative filtering and visualizations
- Functionality to schedule time with others can be incorporated
- Highlight companies, colleges, universities, majors, etc. considered the top or best in category; top undergraduate programs for video game design by Princeton Review as an example

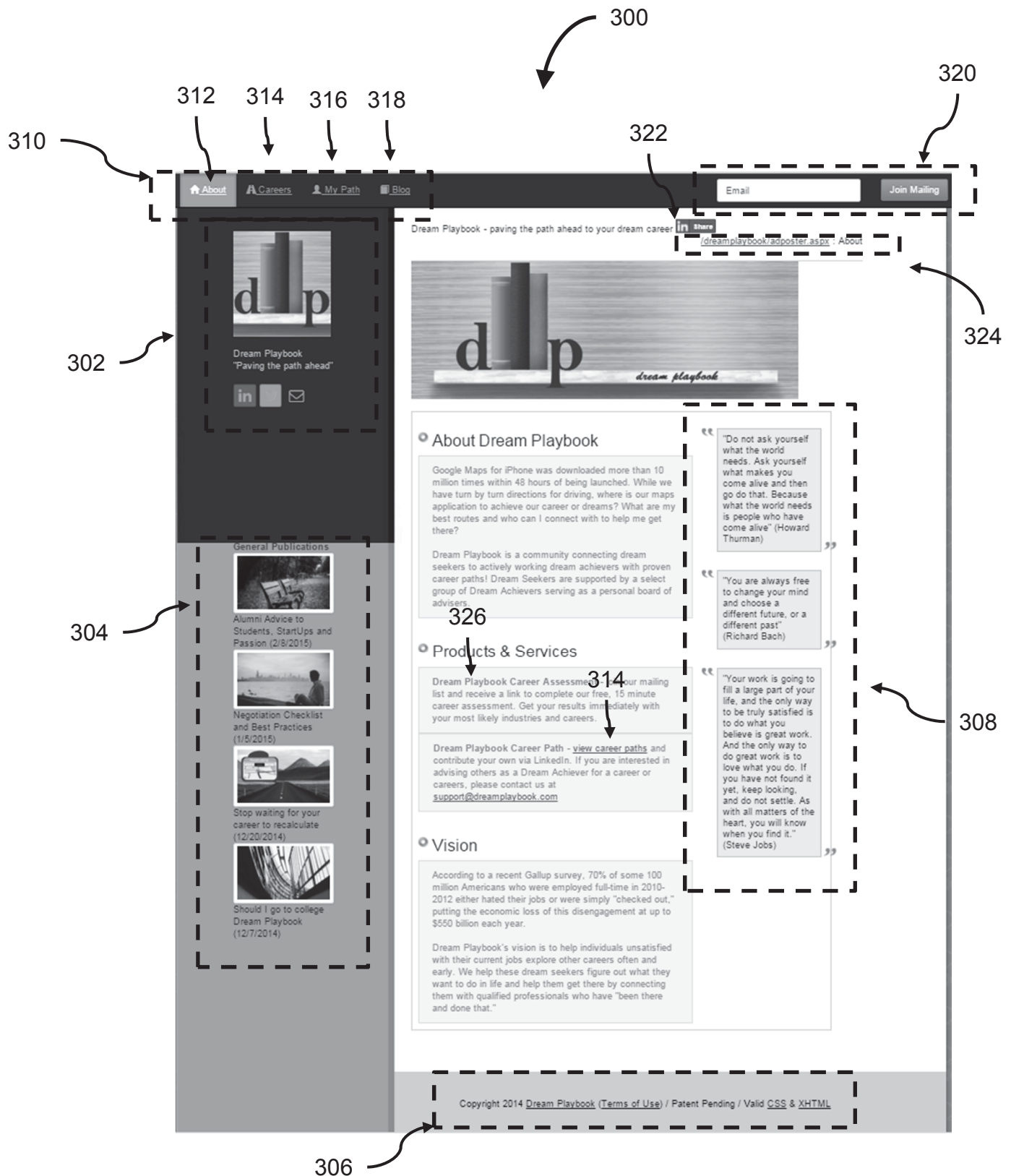
In summary, the assessments, methods, and systems **130** of this invention provide a more complete, end-to-end career development experience enabling advertiser users **101C** to sponsor career path information and all users **101** to provide career guidance in the form of comments **409**, contribute their own career path **507**, find jobs **425**, and view suggested career paths **430** and collapsible indented trees **410** to find industries **413**, companies **414**, jobs **415**, education **416**, degrees **417**, colleges & universities **418**, online courses **421** and specializations **420**, conferences, groups, and meetups **422**. Other alternative ways this invention could be implemented may involve additional functionality, data, and benefits to support the advantages and claims of this invention.

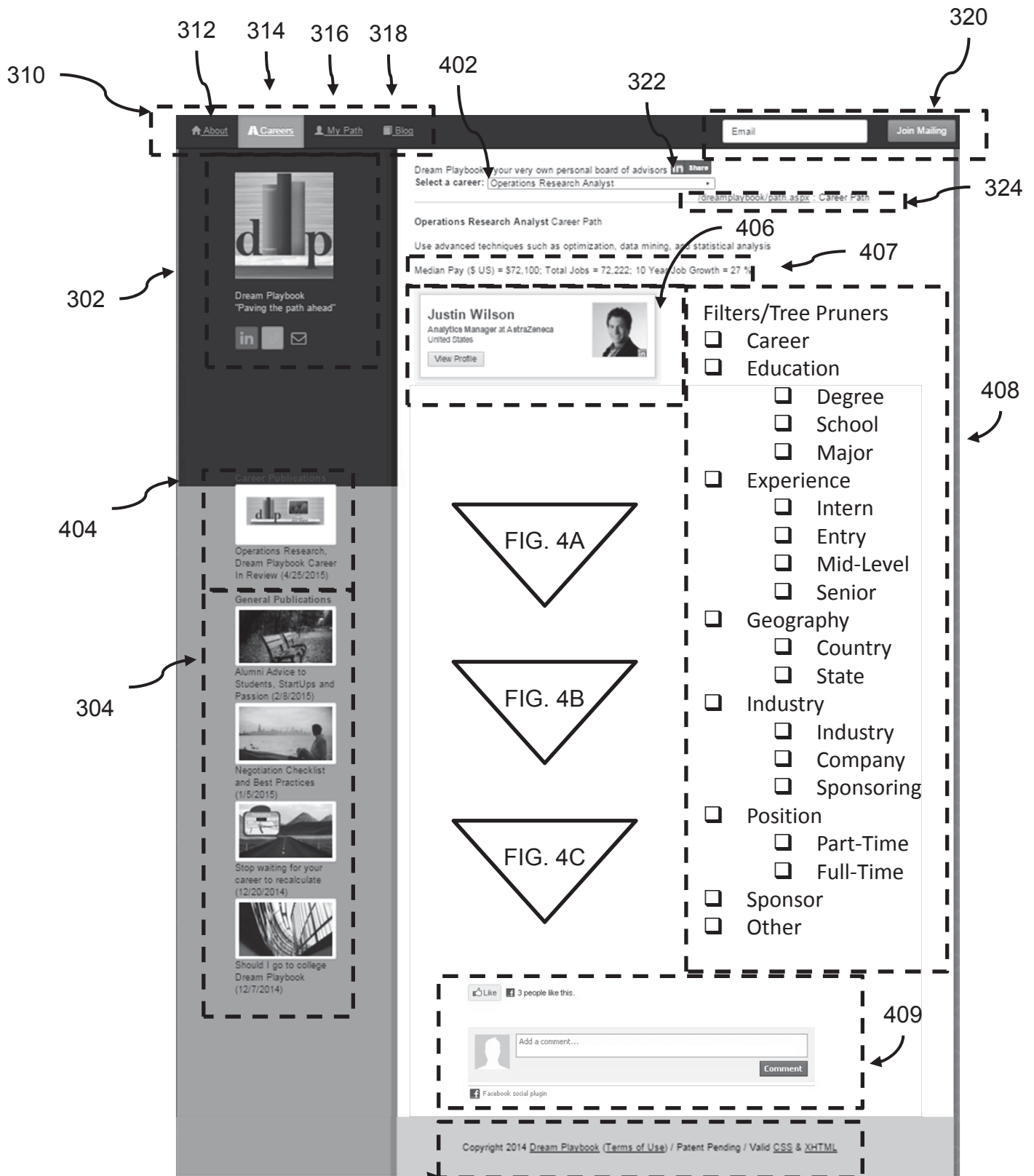
While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiment has been shown and described and that all equivalents, changes, and modifications that come within the spirit of the inventions as described herein are desired to be protected.

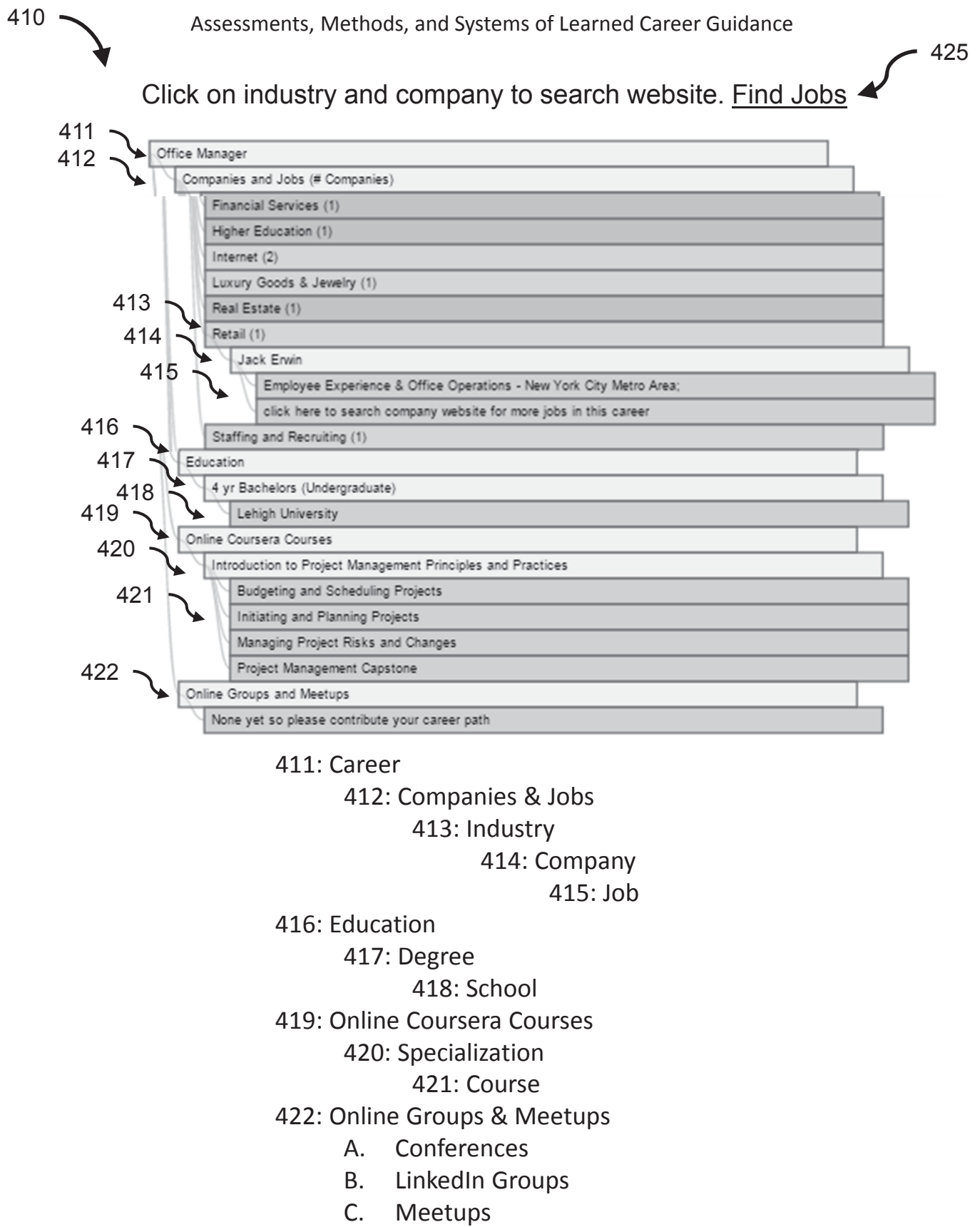




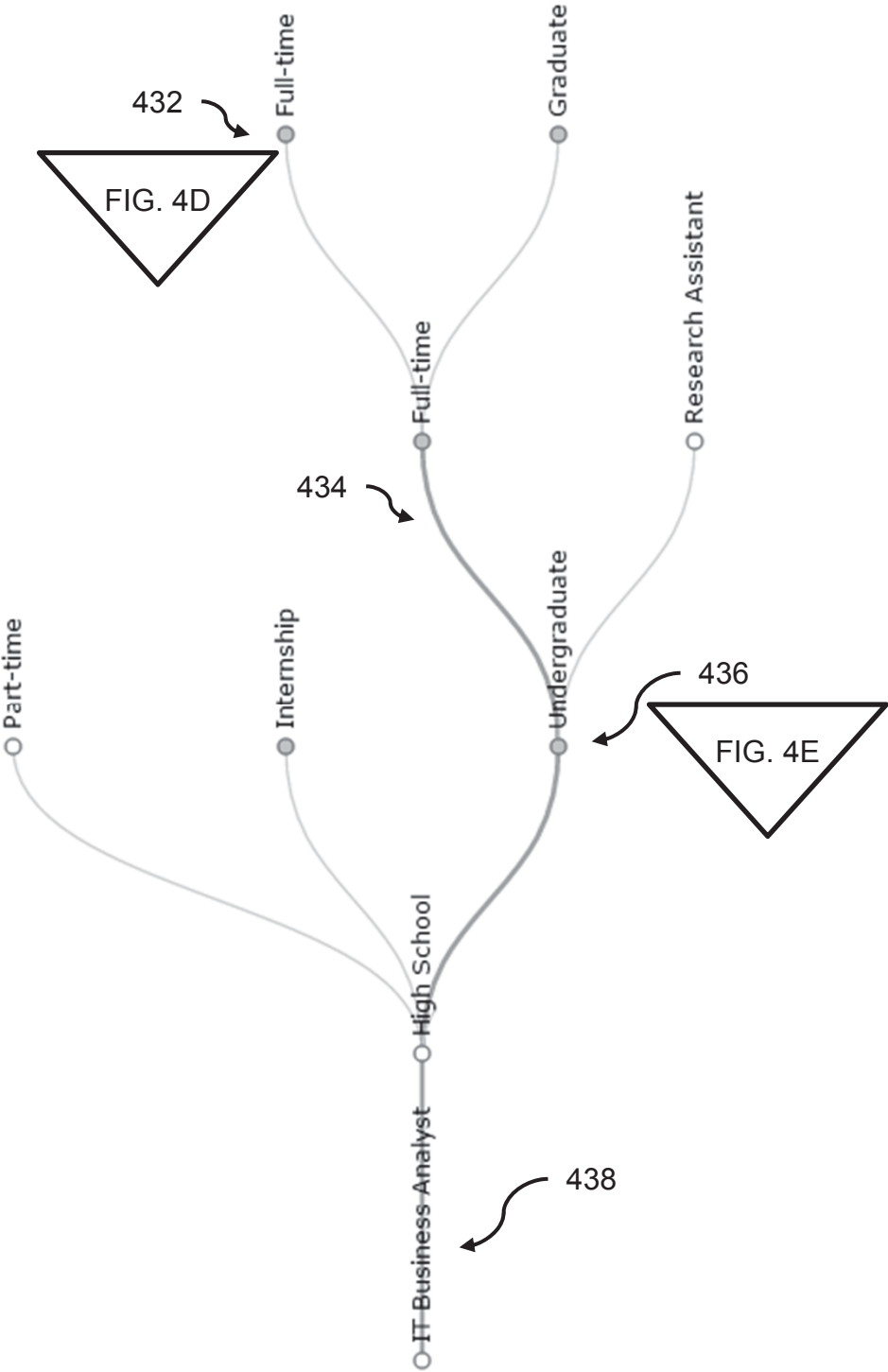








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444

442

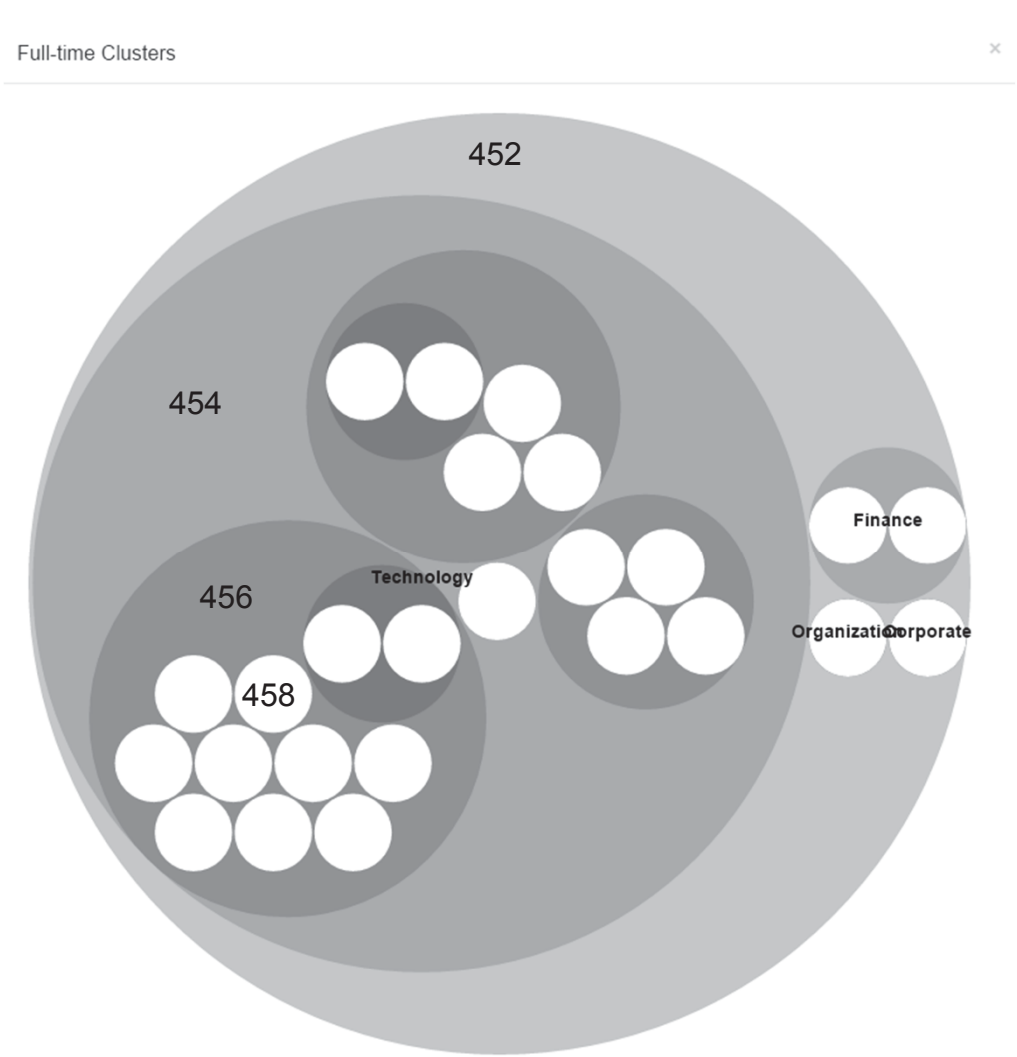
4 Years	8 Years	12 Years	16 Years	20 Years
High School				
	Extracurricular			
	Research Assistant			
	Part-time	Part-time		
	Internship			
	Undergraduate			
		Ed.M., Master of Education		
		Fellowship		
		Graduate		
		Full-time		
			MBA, Masters of Business Administration	

Pseudo code:

- Columns (444): for every 4 years
 - Rows (442): display career node description if majority of users that have contributed career path for the career selected were participating in that career node activity

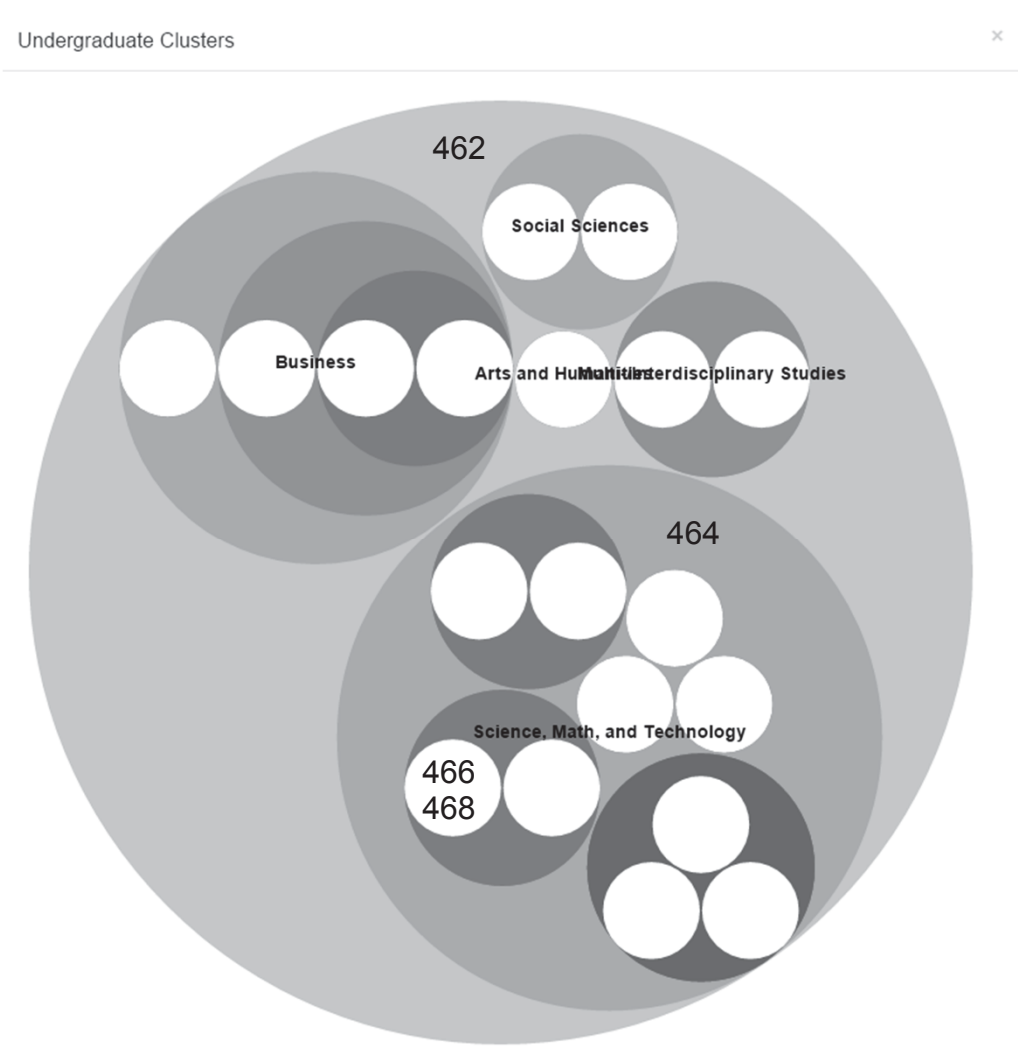
If career node occurs at multiple times or more than 4 years, display in multiple columns in the same career node row

450



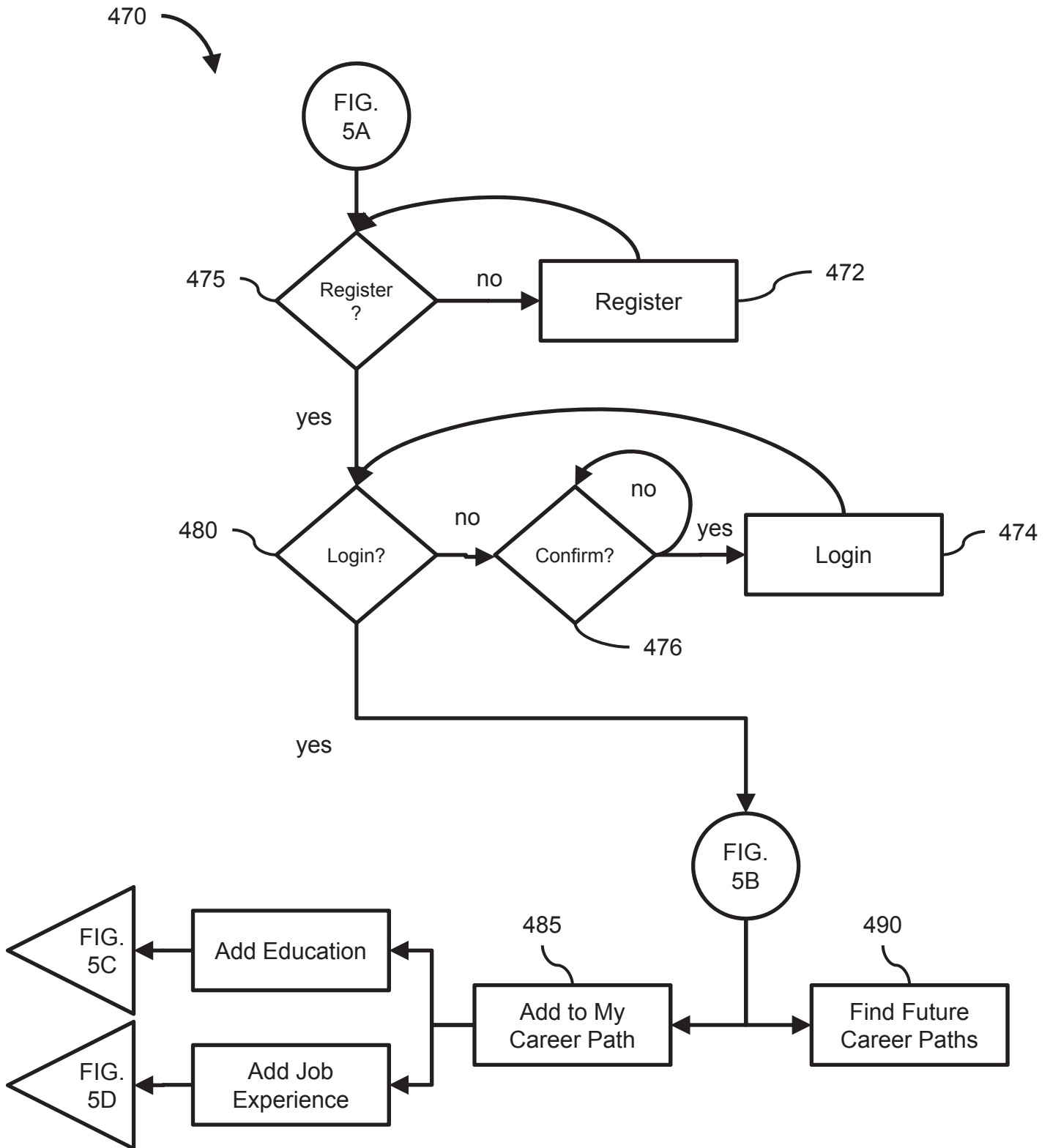
Circle packed full-time clusters 450
452: Industry Group (e.g. Technology)
454: Industry (e.g. Internet)
456: Company (e.g. LinkedIn)
458: User (e.g. id = 199)

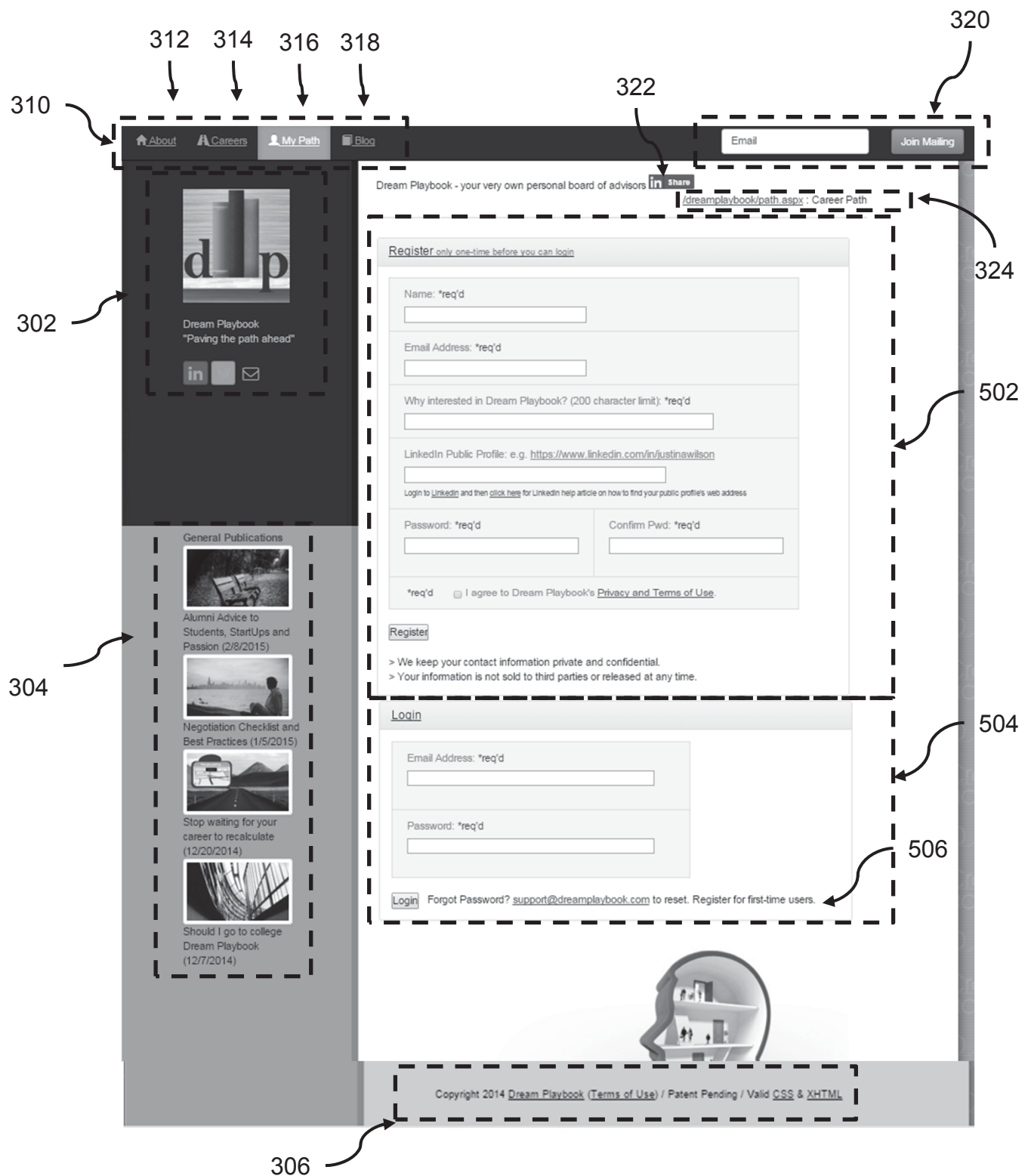
Example of circle packed information hierarchies for full-time job experience

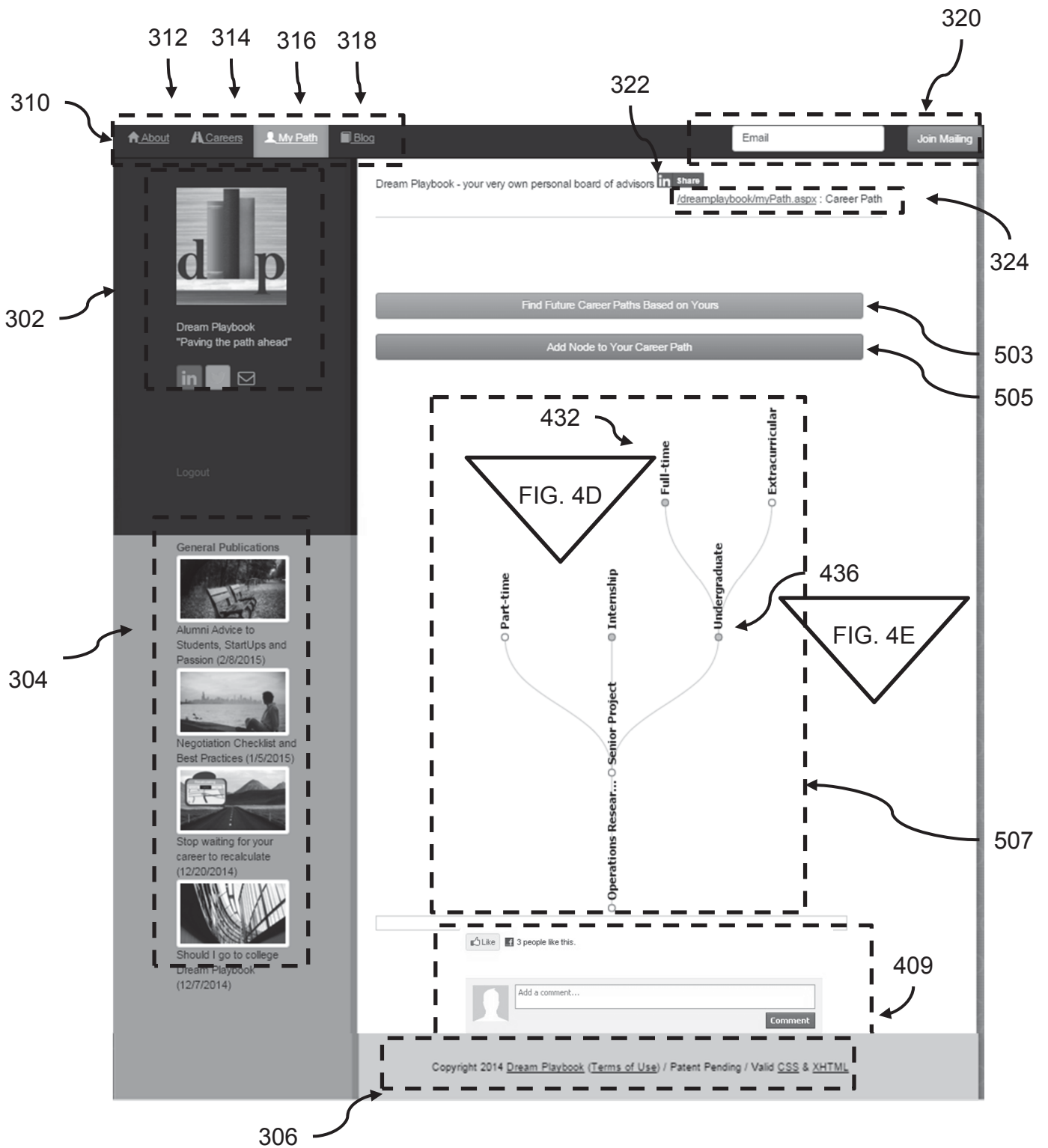


Circle packed undergraduate clusters 460
462: Topic (e.g. Science, Math, and Technology)
464: Major (e.g. Computer Science)
466: University (e.g. Lehigh University)
468: User (e.g. id = 208)

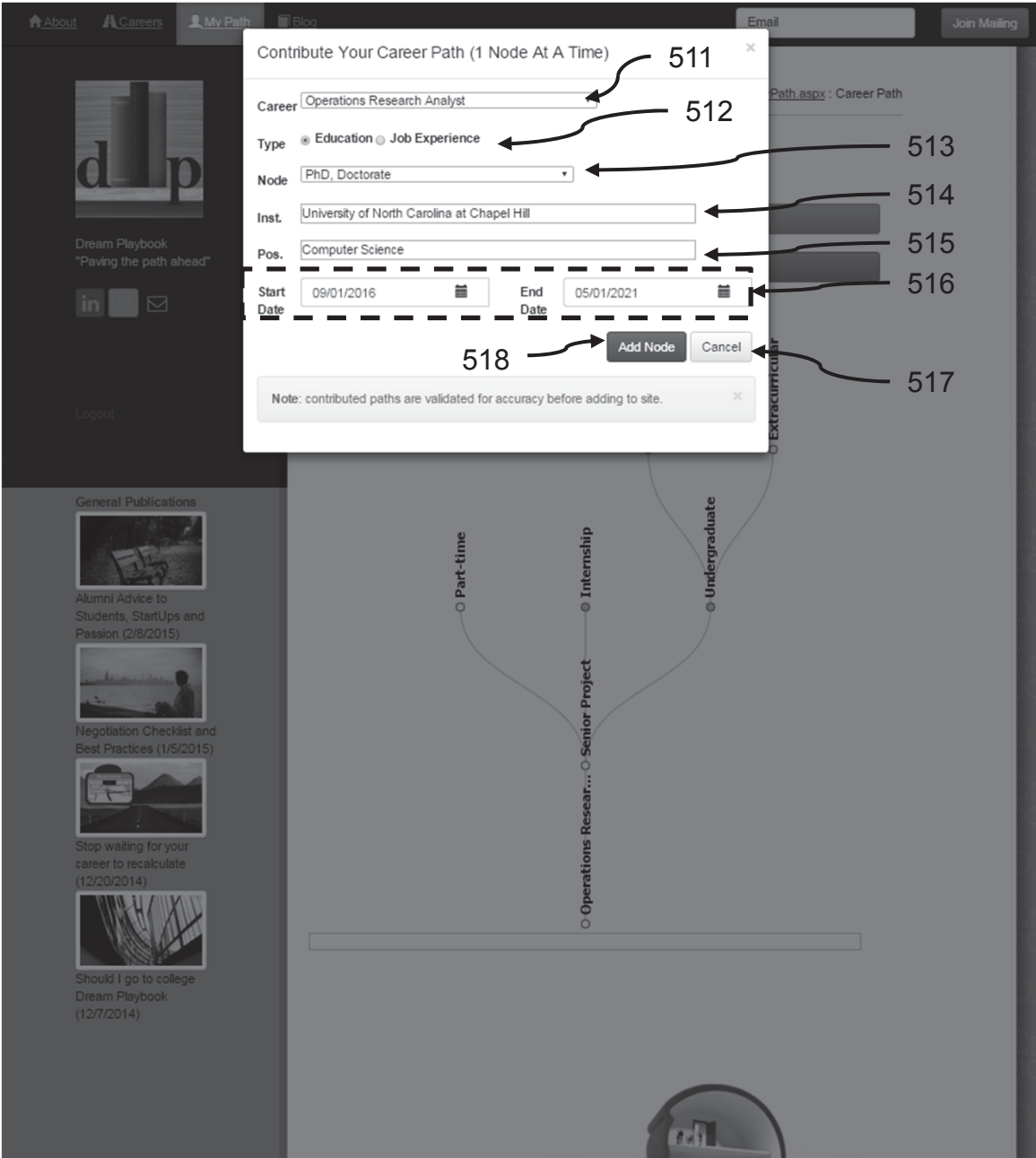
Example of circle packed information hierarchies for undergraduate education

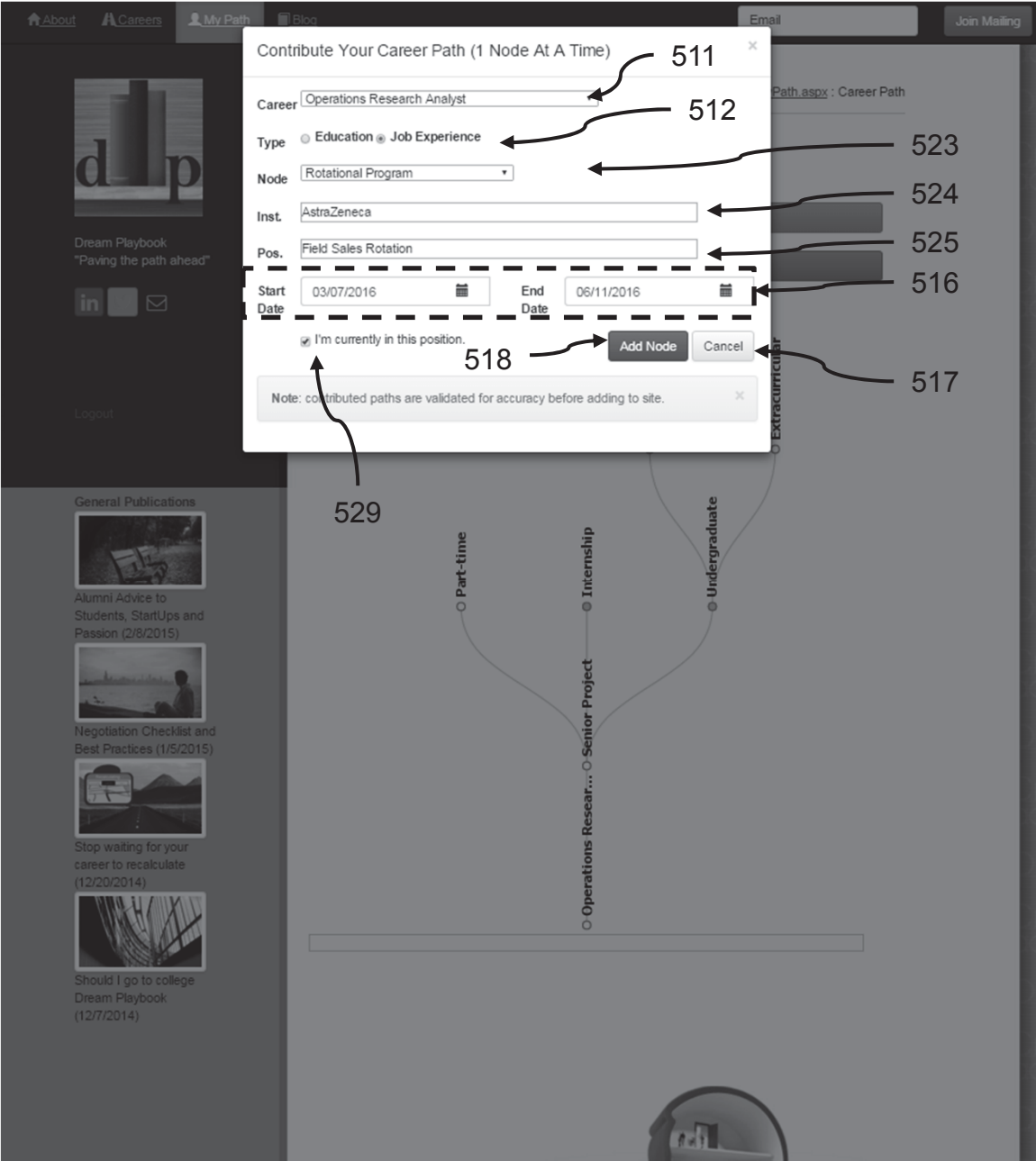






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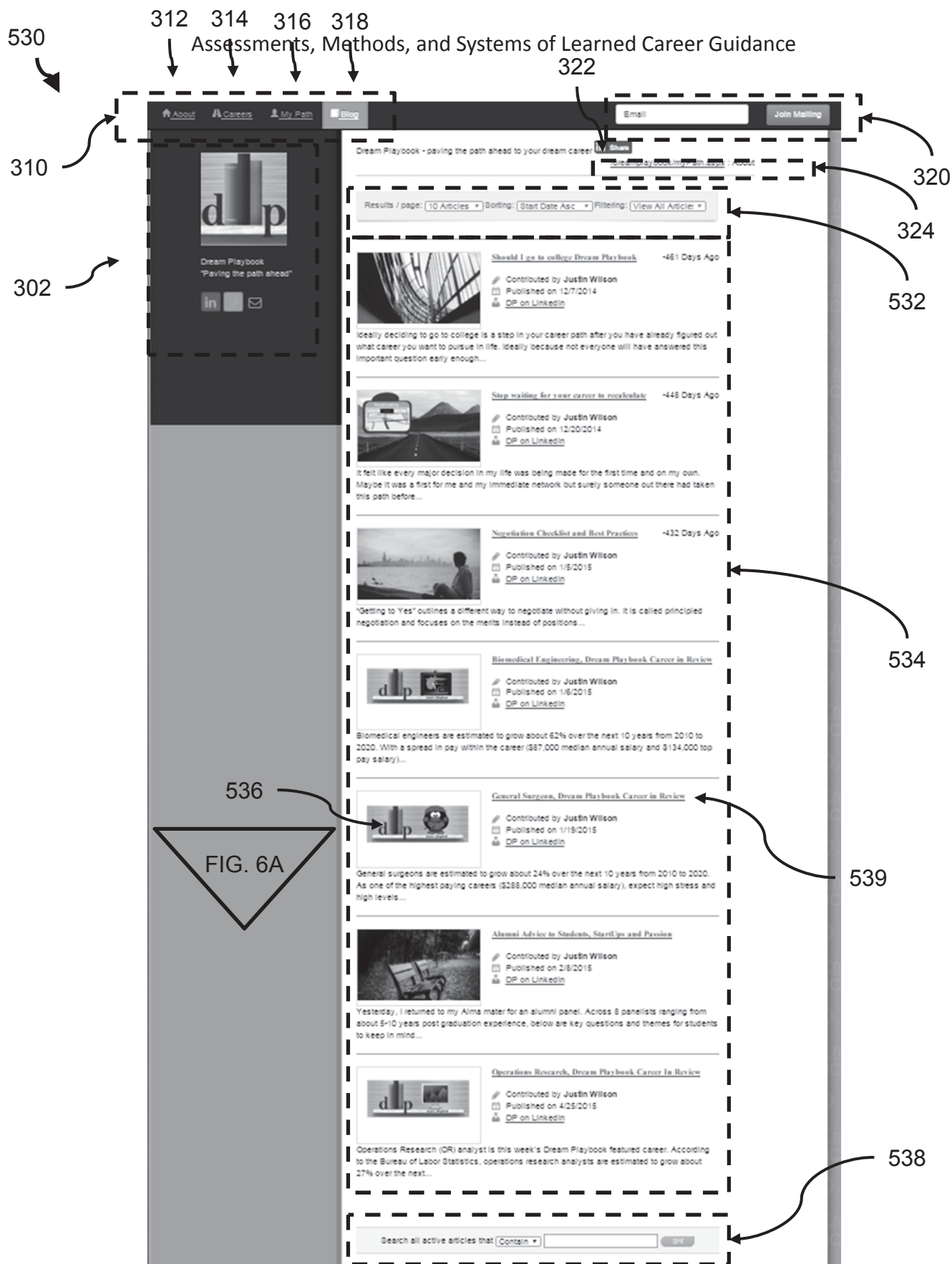


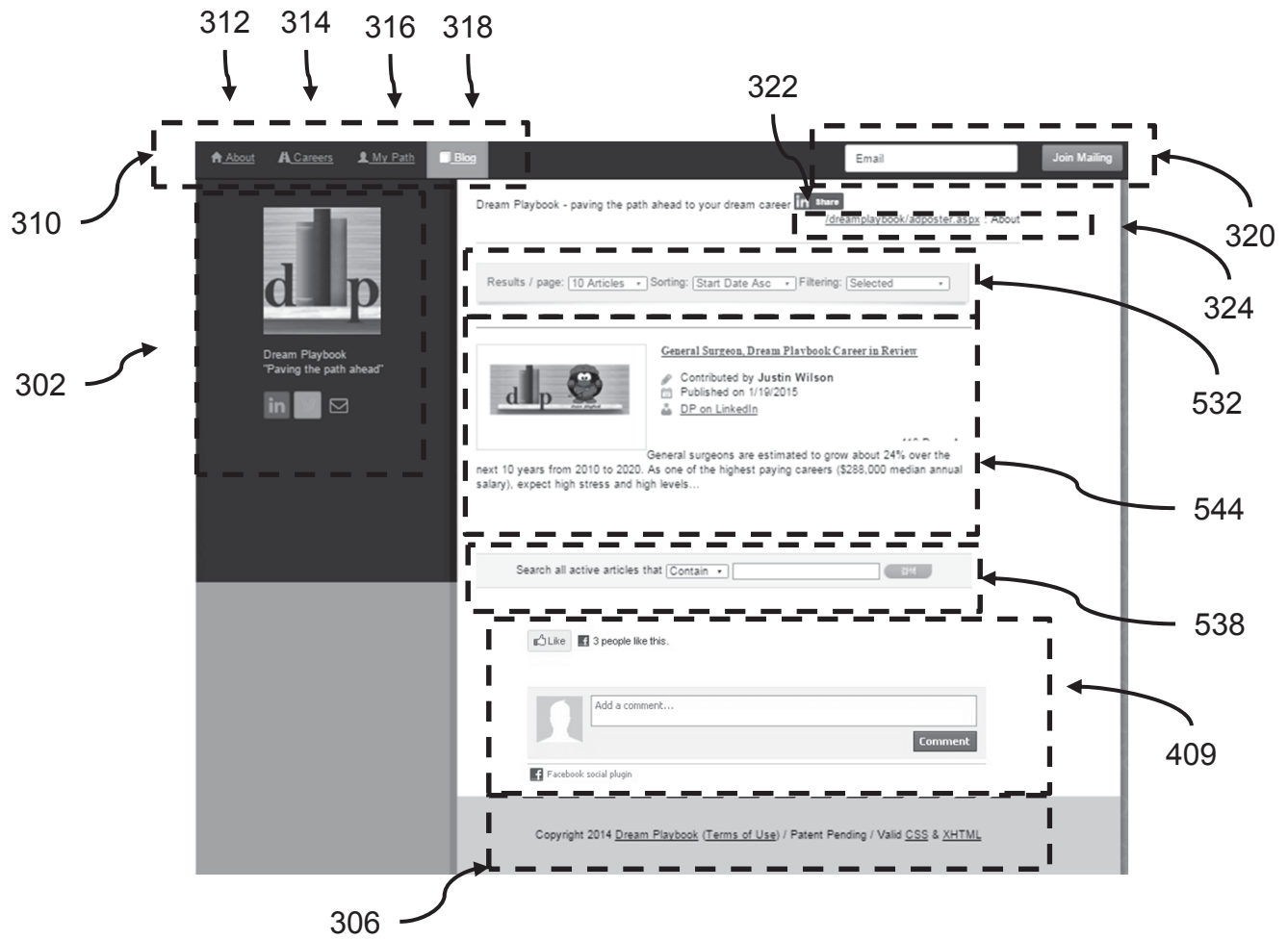
FIG. 6A

FIG. 6

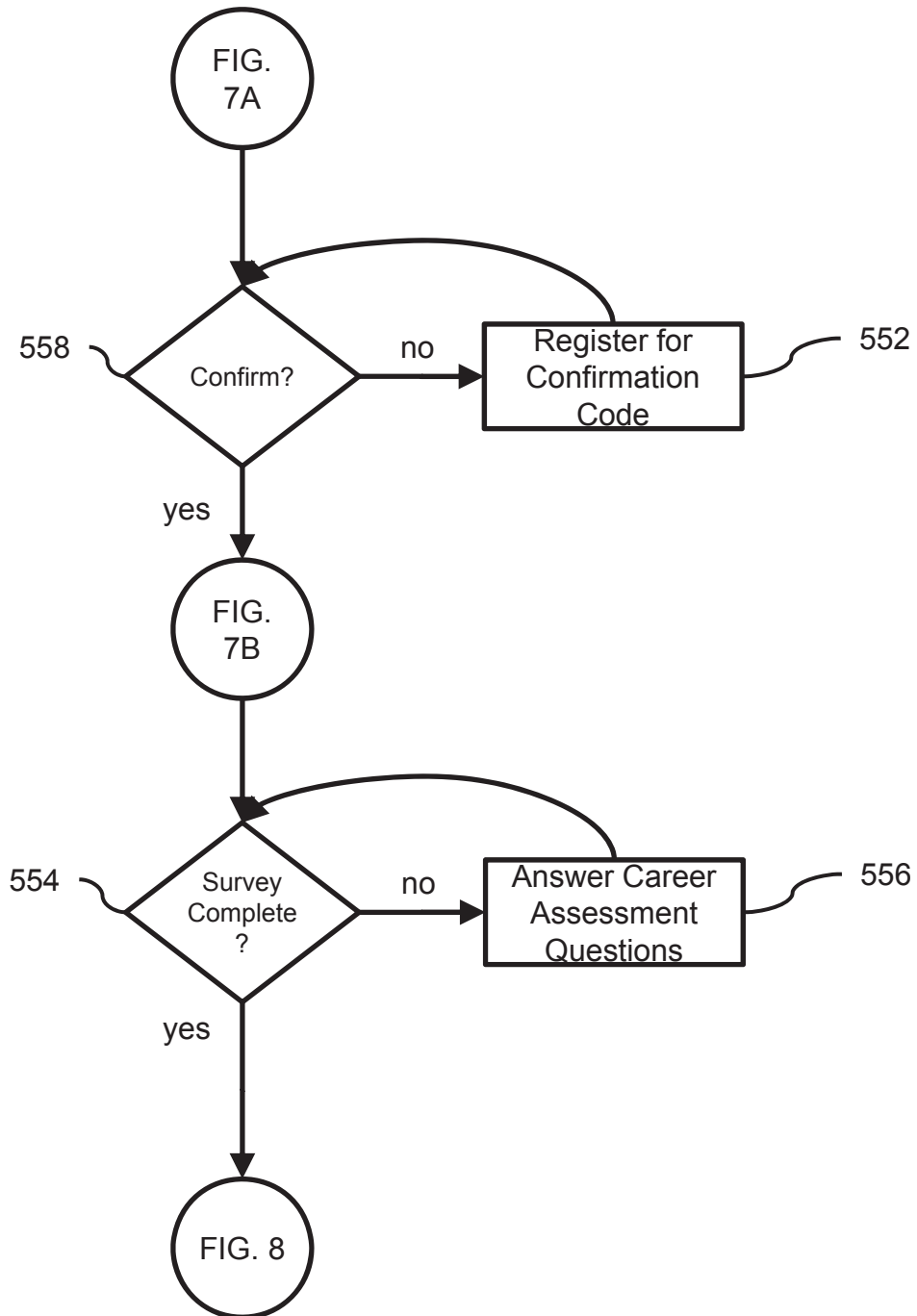
Justin Wilson, Seunghye Jung Wilson, and Drew Schulz

540

Assessments, Methods, and Systems of Learned Career Guidance

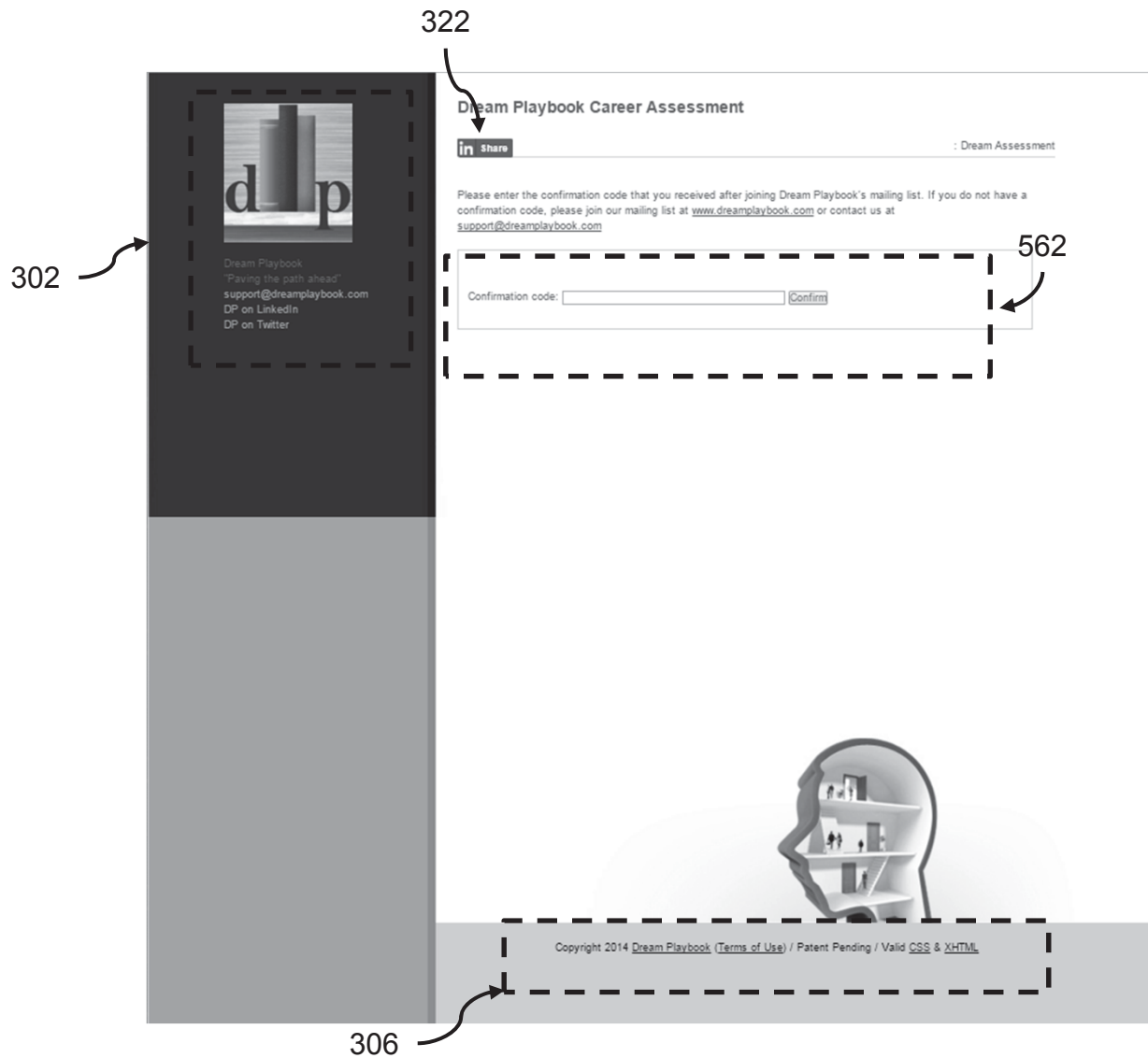


550

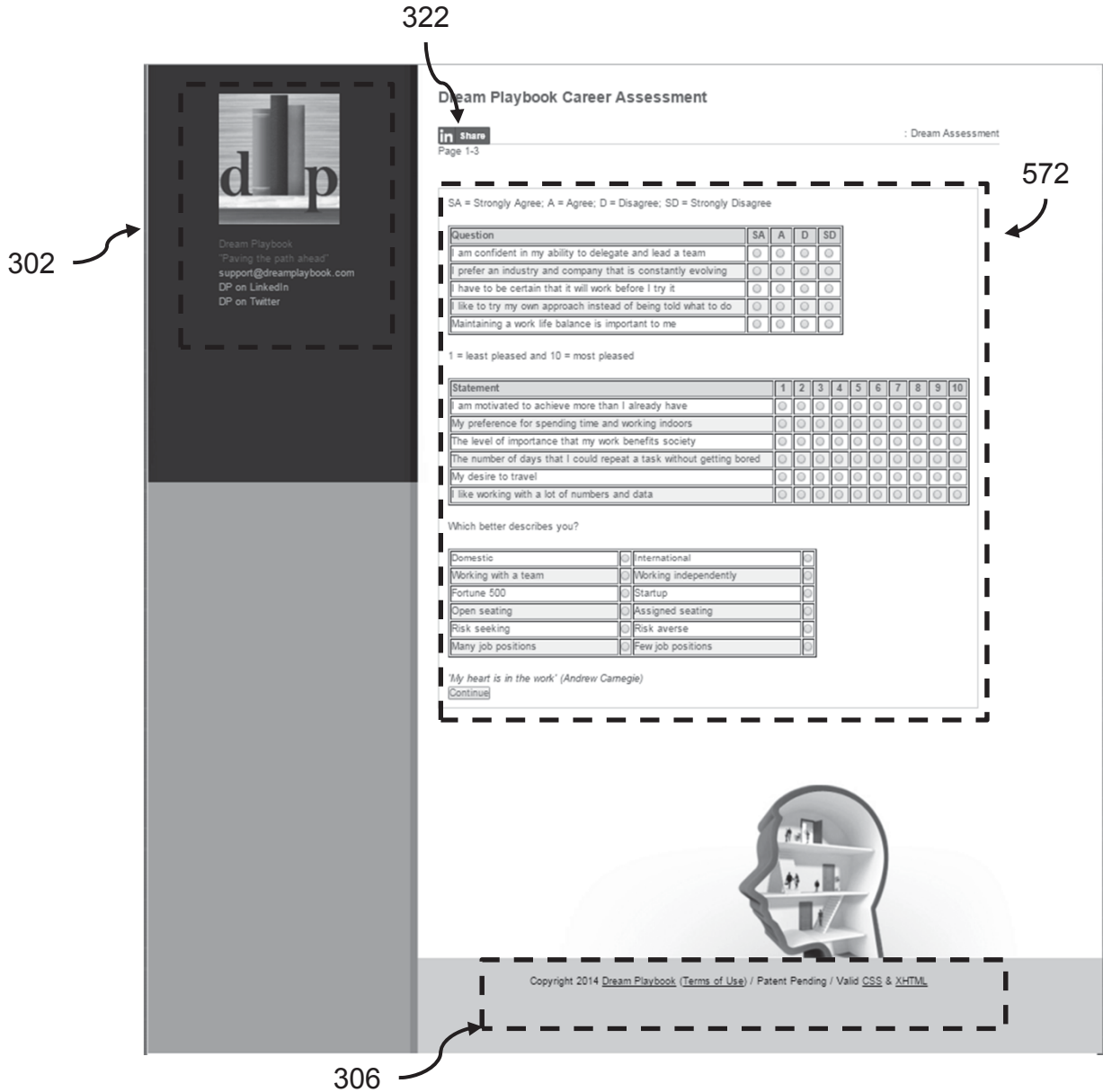


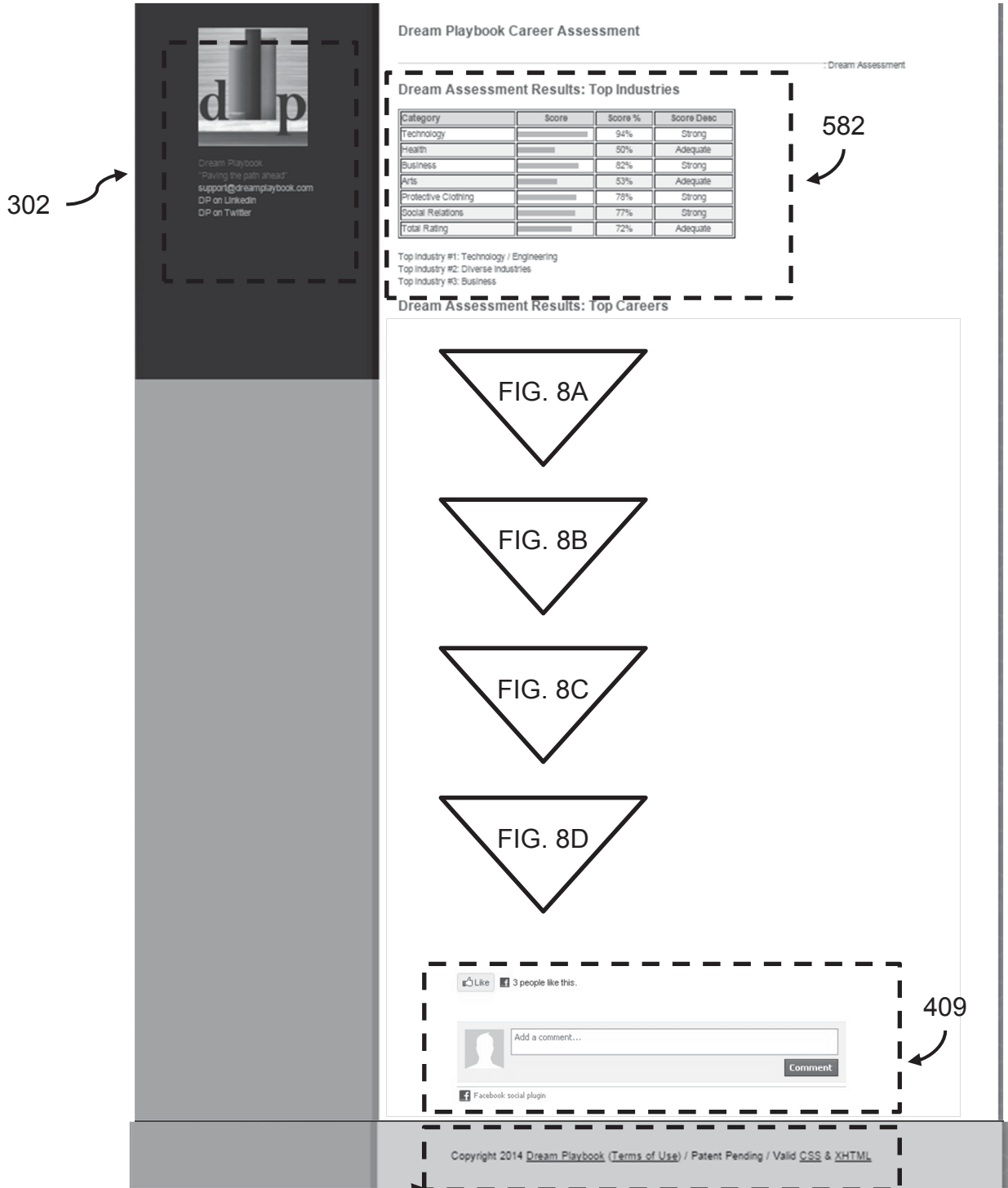
560

Assessments, Methods, and Systems of Learned Career Guidance



System can be setup such that the career assessment can be completed without a confirmation code. However, there may be benefits of using a confirmation code; for example, to receive results or to store for later use along with other member resources.





Category	Score	Score %	Score Desc
Consistency	<div><div></div></div>	69%	Adequate
Stress	<div><div></div></div>	72%	Adequate
Job Growth	<div><div></div></div>	100%	Strong
Total Jobs	<div><div></div></div>	10%	None
Pay	<div><div></div></div>	100%	Strong
Collaboration	<div><div></div></div>	94%	Strong
Flexibility	<div><div></div></div>	89%	Strong
Benefit to Society	<div><div></div></div>	33%	Weak
Personal Satisfaction	<div><div></div></div>	61%	Adequate
Travel	<div><div></div></div>	90%	Strong
Time Indoors	<div><div></div></div>	80%	Strong
Data	<div><div></div></div>	97%	Strong
Creativity	<div><div></div></div>	36%	Weak
Financial Management	<div><div></div></div>	88%	Strong
Education Level	<div><div></div></div>	100%	Strong
Total Rating	<div><div></div></div>	71%	Adequate

Scores by career assessment category based on questions answered. Each career has a unique signature/score by category. Careers are suggested for those with minimum differences between survey answers and career signature across above categories.

600

Assessments, Methods, and Systems of Learned Career Guidance

602

Rank	Career	Median Pay (\$ US)	Total Jobs	10 Year Job Growth
1	IT Data Scientist	\$124,000	28,200	19%
2	Applications Engineer	\$87,000	520,800	28%
3	Patent Attorney	\$175,000	728,200	10%
4	Consulting Software Eng	\$122,000	520,800	28%
5	Research Analyst	\$68,300	282,700	41%
6	Software Dev Manager	\$123,000	307,900	18%
7	Web Developer	\$62,500	141,791	20%
8	Web Analyst	\$67,200	544,400	22%
9	Software Architect	\$121,000	520,800	28%
10	Computer Sys Integrator	\$84,000	347,200	28%
11	ERP Consultant	\$103,000	718,800	22%
12	Software Developer	\$88,700	520,800	28%
13	Software QA Manager	\$105,000	307,900	18%
14	Pricing Analyst	\$62,500	282,700	41%
15	Computer Systems Analyst	\$79,680	521,224	25%
16	Data Management Analyst	\$69,000	544,400	22%
17	UI Engineer	\$92,100	520,800	28%
18	Construction Estimator	\$65,700	185,400	36%
19	Info Assurance Analyst	\$95,700	544,400	22%
20	Information Security Analyst	\$86,170	75,068	37%
21	Computer Security Spec	\$90,900	544,400	22%
22	Network Manager	\$87,900	347,200	28%
23	Database Administrator	\$88,800	110,800	31%
24	Tech Support Engineer	\$74,800	717,100	18%
25	Network Security Analyst	\$75,000	544,400	22%
26	Telecom Network Eng	\$85,900	588,500	29%
27	Database Manager	\$62,300	110,800	31%
28	IT Configuration Manager	\$95,800	588,500	29%
29	IT Training Specialist	\$66,200	217,700	28%
30	Portfolio Manager	\$121,000	206,800	32%

Top 30 careers suggested with minimum differences between survey answers and career signatures.

610

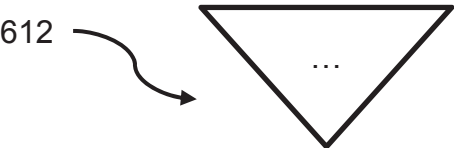
Dream Assessment Results: Answers by Career Category

Consistency (Low or high)

question	answer
Working with a team or Working independently	Working with a team
I have to be certain that it will work before I try it	Strongly Disagree
I prefer an industry and company that is constantly evolving	Strongly Agree
Risk seeking or Risk averse	Risk seeking
Fortune 500 or Startup	Startup
The number of days that I could repeat a task without getting bored	7
Consistency Rating	88%

Stress (Low or high)

question	answer
Risk seeking or Risk averse	Risk seeking
Maintaining a work life balance is important to me	Disagree
I want to be (or already am) CPR and First Aid certified	Strongly Disagree
Stress Rating	72%

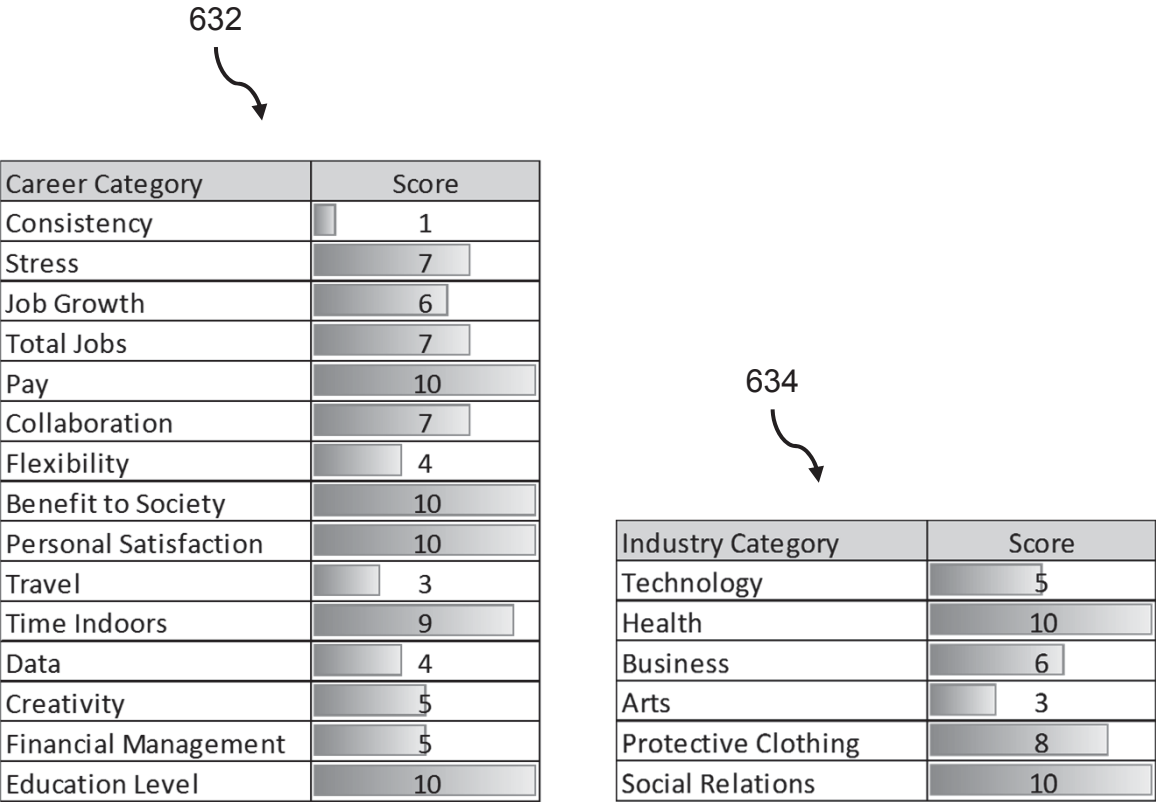


Career assessment results are summarized by displaying answers by category. In exemplary screen shot above, only first two category answers are displayed and remaining categories would be displayed underneath where the arrow ellipsis 612 is positioned.

Dream Assessment Results: Answers by Career Specific Questions

Career	question	answer
IT Data Scientist	Skilled professional who can mine and interpret the data	4
Applications Engineer	Create new or modify existing applications to meet client needs	8
Patent Attorney	File patent applications and protect the rights of the patent holder in court	8
Consulting Software Eng	Technical advice on how to implement a variety of client applications	8
Research Analyst	Industry expert, research, and consultancy to make decisions and set priorities	8
Software Dev Manager	Lead a team of developers to oversee product portfolios and emerging technology	3
Web Developer	Solid understanding of design principles, software programs, web applications, and programming languages	3
Web Analyst	Use analytic tools to measure website visitors and conversions	7
Software Architect	High level design and business decisions for holistic software systems	7
Computer Sys Integrator	Business process and enterprise application integration of subsystems into one system	7
ERP Consultant	Integrated view and information flow between core business processes	7
Software Developer	Writing code, debugging, and staying up-to-date on the latest software advancements	7
Software QA Manager	Test, maintain, and improve existing software to avoid future problems	6
Pricing Analyst	Develop pricing strategies to maximize profitability	5
Computer Systems Analyst	Find ways to make existing computer systems more efficient	5
Data Management Analyst	Direct data sources across systems and oversee validation and organization	2
UI Engineer	Establishing the look and feel of a software interface	5
Construction Estimator	Estimate time, money, materials, and labor for construction projects	4
Info Assurance Analyst	Interested in data being secure, accessible, and protected	3
Information Security Analyst	Risk assessment and defense planning by installing firewalls and data encryption programs	2
Computer Security Spec	Safeguard computer systems and eliminate viruses	2
Network Manager	Configuration management using network analyzers and server load balancers	2
Database Administrator	Basic task support, troubleshooting, and data recovery	2
Tech Support Engineer	Run software diagnostics and build, maintain, and replace or repair computers	2
Network Security Analyst	Secure computer networks and train on best computer security practices	2
Telecom Network Eng	Networking technology such as data networks, voice networks, and video communications	2
Database Manager	Create, merge, troubleshoot, and maintain secure databases	2
IT Configuration Manager	Perform regular administrative IT updates and manage change process	1
IT Training Specialist	Manage group IT discussions and direct structured IT learning experiences	1
Portfolio Manager		0

The career assessment results display answers to career specific questions from the last set of survey questions to sort suggested top careers based on answers to these career specific questions.



Example career (General Surgeon) and industry signature (Health) of category scores